

FORMULATION OF THE 1990 FARM BILL

(GRAIN RESERVE POLICY AND PROGRAMS)

HEARINGS

BEFORE THE
SUBCOMMITTEE ON
WHEAT, SOYBEANS, AND FEED GRAINS
OF THE
COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES
ONE HUNDRED FIRST CONGRESS
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FORMULATION OF THE 1990 FARM BILL

(Grain Reserve Policy and Programs)

TUESDAY, SEPTEMBER 26, 1989

**HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WHEAT, SOYBEANS, AND FEED GRAINS,
COMMITTEE ON AGRICULTURE,
Washington, DC.**

The subcommittee met, pursuant to notice, at 9:35 a.m., in room 1302, Longworth House Office Building, Hon. Dan Glickman (chairman of the subcommittee) presiding.

Present: Representatives Johnson, English, Penny, Nagle, Sarpalius, Jontz, Campbell, Long, Marlenee, Roberts, Emerson, Smith, Schuette, and Grandy.

Staff present: Vernie Hubert, associate counsel; John E. Hogan, minority counsel; Alice Devine, minority associate counsel; Glenda L. Temple, clerk; Greg Frazier, Anne C. Keys, Howard Conley, James A. Davis, Joe Dugan, and Cliff Humphrey.

OPENING STATEMENT OF HON. DAN GLICKMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. GLICKMAN. The subcommittee will come to order. Welcome to this hearing.

I appreciate the witnesses coming here to testify for this hearing. I acknowledge the presence of Mr. Grandy and Mr. Jontz as we open this hearing.

Today is the first hearing of several that this subcommittee will hold on the issue of grain and food reserves. We have with us today several witnesses that will introduce most of the issues surrounding reserves—both grain reserves and food reserves, generally—to give us a broad understanding of its implications regarding food aid and Farmer-Owned Reserve. They will begin by discussing long- and short-term production variability on a worldwide scale and offer an opinion on whether or not an international food reserve system is needed to meet humanitarian needs.

Ten years ago, because of the production shortfalls of the 1970's, this issue received a lot of attention from an array of international organizations. Despite great efforts to organize an international system of reserves, nothing was ever accomplished. Although the world was harboring huge reserves of wheat and feed grains, one widespread drought was able to bring them down to very low levels.

In view of this, it may be in our interest to discuss today why nothing came of these efforts so that we may recognize and over-

come these problems in the event that we enter future international negotiations on grain reserves.

Also on today's agenda, two witnesses are here to open the discussion on the Farmer-Owned Reserve. This is another issue that has not received much congressional guidance over the last 10 years. As a result of this, Farmer-Owned Reserve policy, which was ambiguous from its very beginning, has become even more so with the Secretary vigorously issuing commodity certificates, grain catalogs, and implementing other mechanisms affecting overall price support strategy.

We will have additional hearings on this critical issue so that Congress may eventually write into the farm bill clarifying policy that will give the Secretary more direction in managing reserve mechanisms.

I think it is important to reexamine grain reserves for the 1990 farm bill not only for purposes of reorganizing a domestic reserve system, but also for purposes of reexamining our goals in meeting humanitarian needs—possibly in an internationally coordinated context.

However, the fundamental reason for reexamining this issue is that Congress, in writing omnibus farm legislation over the past decade or more, has focused primarily on farm security rather than food security. Although there was and still is good reason to do this, we must also focus on the overall objective of agricultural legislation, which is simply food security.

As drought and other crop damage in 2 consecutive years has demonstrated, though we have made tremendous advances in agricultural production, we are still subject to the vagaries of nature. With growing concerns about environmental degradation, in the United States and worldwide, we face a new potential threat to our ability to meet our food and feeding needs in the future.

I believe that it is time for the United States to have an affirmative policy of grain reserves so that we, and those who depend on the productive capacity of American farmers, will never have to doubt our ability to meet these vital domestic needs, as well as to meet our commitments overseas for food aid and to meet possible shortages in other countries.

It is my hope that this morning's hearing will lay the groundwork for this subcommittee's role in writing that new policy for inclusion in the 1990 farm bill. I believe that Mr. Hancock of the Food and Agriculture Organization of the U.N. and the rest of our witnesses will have interesting comments on this perspective. I want to thank them, and also thank my colleagues for being here today.

I would yield to any of my colleagues who wish to make an opening statement. Without objection, if he so chooses, Mr. Marlenee will be granted the opportunity to submit a prepared statement for the record. I would be glad to recognize Mr. Emerson.

**OPENING STATEMENT OF HON. BILL EMERSON, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF MISSOURI**

Mr. EMERSON. Thank you, Mr. Chairman.

Mr. Chairman, I want to thank you for scheduling today's hearing on this important facet of domestic agricultural policy.

This committee is well aware of the grain-yielding capabilities that our Nation's farmers possess. Along with this capacity for agricultural production comes the responsibility of efficiently managing our present and future grain stockpiles. This is no easy task, given the immense complexities of domestic and world markets, as we have seen over the last several years.

Foreign production, domestic weather patterns, and international commodity demands all contribute to the enormous challenge that lies ahead for agricultural policy makers as we approach the writing of the 1990 farm bill.

Also, I want to say, as the ranking member of the House Select Committee on Hunger, I have a particular interest in the development and the availability of world grain supplies and how they may be used for the possible relief of hunger and starvation worldwide—especially upon the African Continent. I have personally witnessed the need for international assistance that our own American grain reserves have helped fulfill.

I look forward to working with the members of this committee and with those who will appear before us today as we address these important grain production and supply issues.

Thank you, Mr. Chairman.

Mr. GLICKMAN. Thank you. I'd note for the record that you have been an extremely important leader on hunger issues. And, of course, you were the partner of our late colleague, Mickey Leland, in his efforts to try to deal with some of these things.

I think one of the functions of this hearing, as I said before, is to recognize that our productive capability in this country does relate to what is happening in the rest of the world, not only just to sell more grain, which we want to do, but to make sure that we have that basic food supply necessary to feed people and to make sure that the tools are available to do it responsibly.

We have kind of neglected the issue for a while, and I think that as we write this new farm bill we have to write it in the context of doing those sorts of things.

I appreciate your comments particularly and your input.

Does anybody else want to make an opening statement?

Mr. Grandy.

OPENING STATEMENT OF HON. FRED GRANDY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IOWA

Mr. GRANDY. Mr. Chairman, I really have no prepared opening statement. I really want to commend you for beginning these hearings.

I hope that as we proceed, some of the contradictions in our domestic and our international agricultural policy will be resolved.

I assume that one of our witnesses today will point out that, of the 50 million acres that the United States idled under Federal programs in 1988, possibly more than 100 million tons of grain—enough to increase the world reserves by one-third—could have been raised. And yet, at the same time, this Nation—and particularly this committee—is waking up to environmental concerns that

involve taking more land out of production with a greater sensitivity to highly erodible land.

I am curious as we proceed through these deliberations to see how we find that economic and environmental balance.

We have, up to this point, tried to really leverage these concerns in terms of our domestic policy. But as we become more aware of a potential new Malthusian nightmare, if you believe that, or even just a decrease in food supplies based on inflexible local government decisions, we may find that the policy that we write in this committee will really be more international in nature than it is local and regional.

So I hope, Mr. Chairman, that this will be the beginning of what will be a long and detailed study into some of the inherent contradictions in our present policy.

Thank you, Mr. Chairman.

Mr. GLICKMAN. Thank you very much.

I might just mention, for the record, that obviously this witness list today is not meant to be a complete witness list. We will, of course, have the Department of Agriculture testify at future hearings—particularly as they have their ideas more in concrete. They are doing an internal study right now on this issue, so we felt it would be better to wait until they had more of their ideas defined. And it is our intention to have at least two more hearings this year on this issue.

Mr. Roberts, do you want to make an opening statement?

Mr. ROBERTS. I have some grouching to do, Mr. Chairman. I'm not in a very good mood today, so I thought this would be a good opportunity—a new Malthusian theory, my word.

Mr. GLICKMAN. Yes, sir. Go ahead and grouse.

Mr. ROBERTS. Is that what my colleague from Iowa said? I couldn't quite catch that.

Mr. GRANDY. Yes. I did use the word Malthusian.

Mr. ROBERTS. Yes.

Mr. GRANDY. With the gentleman from Kansas specifically in mind.

OPENING STATEMENT OF HON. PAT ROBERTS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. ROBERTS. Mr. Chairman, this reminds me of the Poltergeist movies. "They're back." It just seems that every time we get into a relative, reasonable supply and demand situation anywhere from 400 to 600 million bushels of grain—which I thought was the purpose of the farm bill, to get us back to a better price and cash-flow and credit situation in farm country—here we have the purveyors of doom and gloom.

We read in the Washington Post, the fountain of all knowledge, that Mr. Lester Brown is imitating the little fellow who used to be in the Little Abner cartoon with clouds of doom and gloom following him about. I wish they were in Kansas when we needed the rain.

It just points up again to me that we are using the farmer again as a public utility—even an international member of a utility.

When we have a price reflected at the county elevator of about \$3.60 in Dodge City this morning—and hopefully \$4 and maybe even \$4.50—here we have those who say we are going to have to go back to more production. And we'll get that production. We were down about 210 million bushels this year, Mr. Chairman, as you know. And, given a normal crop year—and I certainly think that will take place—I don't think anybody has to worry about ample supplies of grain. You may have to pay a little bit more for it. The farmer may get a decent price for it.

But here we go again. It happens about once every 10 years when we get into what I call a reasonable supply and demand situation. Then, we have those who want to come back and use the farmer's grain.

I sympathize with the world hunger folks, and I even sympathize with Mr. Brown. We should have had him here this morning. We could have had an interesting discussion. I understand you're going to invite him for a later hearing.

But this is the farmer's grain. He is the one that goes through all this difficulty.

I was just attending a seminar that the grain companies had and they invited Bill Bailey, who works down at the Department of Agriculture and is a fine man. They were talking about this new tight supply situation. New short supplies. They had all these slide shows.

What do we have the farm bill for? I thought part of the CRP program and part of the farm bill and part of this whole situation was to get the carryover to a reasonable level so a price would be reflected at the country elevator so we could make a living. I know we're into some degree of concern here, but we're going to have enough grain.

Then I had the opportunity to talk to the bakers here about 2 weeks ago. They want the surplus at 900 million bushels. I can understand that. They make a profit when we have ample supplies of the product. Everybody wants to put a certain figure on this carryover and then scream bloody murder when a farmer gets a decent price.

Then we have the decision by the USDA to allow overplanting for an alleged 62 million bushels—a piddling amount, a late announcement.

I worry about going back down that road to overproduction, fence row to fence row, when the farmer has to suffer the consequences.

And I know that we are going to be exploring all sorts of initiatives in regard to grain reserves. I don't care what kind of a reserve you have, it is a selective form of price controls. I don't care if you put it underneath an Egyptian pyramid; it will come out if the price is right.

I'm going to make my same suggestion in regard to grain reserves, Mr. Chairman. What we ought to have is a cash reserve. If we are into tight supplies, we ought to buy it. That would happen in any other sector of the economy except for agriculture and the grain farmer.

As you can tell, I'm a little upset about all of this talk about tight supplies and what we're going to do just at the time when we

have a price reflected in farm country where we're slowly working out of the problems that we have and we're using the farmer again as a pawn for all sorts of purposes.

Well, having said my piece, I think that this article of this morning which, in part, prompted the concern where we have this hearing, is about the same kind of thing that we have in our Dodge City feedlots.

With that, I will yield back.

Mr. GLICKMAN. I want to thank the gentleman for his very clear remarks.

Why don't we go ahead and call our first witness if there are no—

Mr. SCHUETTE. Excuse me, Mr. Chairman.

Mr. GLICKMAN. Mr. Schuette. Yes, sir.

Mr. SCHUETTE. If I may, I'd like to make some opening comments.

Mr. GLICKMAN. Certainly.

**OPENING STATEMENT OF HON. BILL SCHUETTE, A
REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN**

Mr. SCHUETTE. Thank you very much.

I look forward to this hearing today. Unfortunately, I just came from another subcommittee meeting concerning forest management—I didn't get to hear all of Mr. Roberts' comments. But I think Mr. Roberts, from what I caught, makes good sense. We are all concerned about the hunger across the world. But I think it is also important that we remember farmers have come through some tough times, and some are just now able to make loan payments again. Some are trying to make sure that they are prepared for the future. Some may even be making some money, which is good for families in rural areas. And I hope we don't overreact and cause the farmer and farm families to suffer. And I hope that our policies here are stable and permit farmers to plant and anticipate.

Years ago we were here with a glut of products on the market. Prices were dangerously low. People weren't making money. We had foreclosures. We had bankruptcies.

We are on the road back up. Let's make sure we don't go back down again and cause trauma and tragedy and problems to farm families.

Thank you, Mr. Chairman.

Mr. GLICKMAN. Thank you.

Mr. Campbell or Ms. Long, do you have any opening statement?

[No response.]

Mr. GLICKMAN. OK. Let's go ahead and call—

Mr. EMERSON. Mr. Chairman.

Mr. GLICKMAN. Yes, Mr. Emerson.

Mr. EMERSON. Could I ask for 1 additional minute to make an observation?

Mr. GLICKMAN. Of course. Sure.

Mr. EMERSON. I think that the subject we're addressing here is an important subject. But we're talking also about perception.

My experience, for example, with the famine in Ethiopia in 1984, and again in Sudan this year, has lead me to believe that there is

widespread public misperception about what the problems really are.

Neither in 1984 nor this year has the problem been a lack of grain or lack of food supply in the world. I have tried to make this point many times. There are other impediments.

The problem is getting the food to the people where they are when they need it who may be in starvation.

The problem in Ethiopia in 1984 was a drought. But the reason the people were not adequately fed was, more than anything else, a lack of an infrastructure in that country that could get the food to the people when they were in such desperate need.

In Sudan this year the problem is a civil war. That presents some real problems in getting the grain from point A to point B when people are shooting at you.

We need to be cognizant and aware of these things.

I get asked very often the question of why, in a country of such abundance of food, do we let these things happen. It is not a matter of our letting them happen; it is a matter of natural circumstances and problems such as civil war that get into the equation that prevent our delivery of food to people who are hungry and who need it. We need to keep that fact in mind. It is not miserly Americans with an overabundance of grain playing politics in the world. As a matter of fact, we have been very generous. We are very generous, and we need to keep that point before us as we examine this question.

Mr. GLICKMAN. Thank you.

Mr. ROBERTS. I thank the gentleman for his indulgence.

Mr. GLICKMAN. Thank you, Mr. Emerson.

Why don't we begin with Mr. Hancock, Chief of Basic Food Services at the FAO in Rome, Italy.

It is a pleasure to have you here. We appreciate your coming in from Italy to discuss this from an FAO perspective.

Your entire statement will appear in the record immediately following your oral presentation. We'd like you to try to keep your remarks to as close to 5 minutes as—in your case, since you came 4,000 miles, we'll give you an extra 5 minutes. That's so we can have the opportunity of asking you plenty of questions.

STATEMENT OF RICHARD HANCOCK, CHIEF, BASIC FOODS SERVICE, COMMODITIES AND TRADE DIVISION, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, ROME, ITALY

Mr. HANCOCK. Thank you, Mr. Chairman, for the opportunity to present FAO's views on the global outlook for particularly wheat, soybeans, and feed grains, and the implications of the world food outlook.

My name is Richard Hancock, and I'm Chief of the Basic Foods Service in FAO's Commodities and Trade Division.

With your permission, sir, and in view of what you have just said, I would ask the subcommittee to be somewhat generous to me in the time allowed. I shall certainly summarize the testimony, which I've already submitted to the subcommittee, and would re-

quest that the full document be inserted in the record of the hearings.

Mr. Chairman, I would like to start by taking a brief glance backwards before going on to the outlook for the next few years. In those years, new challenges will undoubtedly arise. But there are also unresolved problems arising from past developments which still demand careful attention.

FAO has undertaken a number of studies in recent years which cast light on these trends and examine world food prospects. Most recently, we have issued an updated and revised version of a major study "Agriculture: Toward 2000," on which I shall draw heavily in this testimony.

Looking back over the last quarter of a century, it is clear that agriculture has made considerable progress. The world, as a whole, is better fed today than at the beginning of the 1960's.

Technology has succeeded in raising productivity. Between 1970 and the mid-1980's, rice yields in the developing countries rose by over 40 percent, and wheat yields by no less than 75 percent. Production growth in these countries averaged 3 percent a year. World food trade expanded rapidly. And agriculture forged closer links with the rest of the economy.

But the progress achieved has not been shared by all countries or continents, nor has it eliminated hunger and malnutrition. Per capita agricultural production in sub-Saharan Africa fell by nearly 1 percent a year in the last quarter century. According to FAO's Fifth World Food Survey, there are between 350 and 510 million people undernourished in the developing countries.

Other problem areas for global agriculture concern protectionism, massive external debts, environmental damage, and the instability of food supplies and prices.

The current situation, which is continuously monitored by the FAO under our Global Information and Early Warning System in our monthly "Food Outlook" bulletin—and I would add here that this, in fact, is one of the useful outcomes of the World Food Conference in 1974, that FAO has spent a lot more time keeping a very close watch on the current agricultural situation.

The present situation well illustrates the instability problem. Large supplies of cereals on world markets in 1986-87 and 1987-88 gave rise to cutthroat competition amongst exporters and the lowest real prices since the 1930's.

However, as has been mentioned by members of the subcommittee already, the combination of bad weather and policy-induced cutbacks have led to a fall in world cereal production to below the level of consumption in both 1988-89 and in the current year.

Stocks of cereals are forecast to fall by the end of the 1989-90 season to or even a fraction under the minimum that FAO estimates is required to safeguard world food security. The current low levels of stocks—and particularly of wheat—means that relatively large production will be required in 1990 and perhaps beyond to rebuild a more adequate level of world stocks.

But generally, the tight situation in the markets for both cereals and for oilseeds in the past year or so should, according to our assessment of the longer term, be followed by a period when global agricultural production is likely to rebound and the increase is

more likely to be constrained by an insufficient growth in effective demand.

Our assessment assumes that the developing countries will be able to improve their average food intake through a steady growth in domestic production and only rather limited increases in imports.

We are not, however, so sanguine about undernourishment. Indeed, widespread hunger is expected to persist and even grow worse in terms of the numbers of hungry people.

Particularly at risk is sub-Saharan Africa. Foreign exchange scarcities stemming from the huge overhang of external debt and weak market prospects for some of their main export commodities will continue to constrain their food imports on commercial terms so that food aid will continue to have to play an important role in meeting their food deficits.

For the European centrally planned economies, we assume some response to policy reforms. Our main scenario is for no growth in their net imports of cereals.

As a result, the net import demand for cereals that will need to be met by the developed market economies—and, particularly, the main exporters in North America, Australia, and Argentina—is expected to show only modest growth. As the domestic requirements for cereals are also growing only slowly in this group of countries, its trend rate of growth of cereal production would, by our estimates, have to decline from well over 2 percent a year to less than 1 percent a year in the 1990's—once, that is, output has recovered from its recent shortfalls.

Mr. Chairman, trying to shorten the comments I had on the long-term outlook, I would now like to proceed to a number of key assumptions about these developments in the technical, political, and economic spheres. And I would like to refer briefly to some of the major uncertainties in this outlook.

First, concerning technology and investment, it is our view that productivity gains will continue to be the driving force in world agriculture in the future. For the developing countries, there is a pipeline of research results ready to be adopted, and prospects for technological advancements are good, providing effective extension services are in place and suitable policy and economic incentives exist.

Our main fear is that economic stringency will put a brake on implementation and on the scale of investment in developing countries' agriculture. The slowdown in growth of staple food production in China since 1985 and the deceleration of yield improvements in recent years in Africa and in Latin America are worrying signs that all is not well.

Second, regarding the environment, we do see significant strains, particularly in the developing countries, where large increases in production will be needed. In broad terms, the main environmental problems of developing countries will be: Asia, from increased irrigation and deforestation; in the Near East and North Africa, from shortage of arable land and increased desertification; in sub-Saharan Africa, pressure from both livestock and crops on fragile soils; and Latin America, from deforestation and increased monoculture.

By contrast, the slowdown in growth rates which may come about in the developed countries could be an excellent opportunity to adopt policies more sensitive to environmental needs.

A further matter of uncertainty and concern concerns the growth of demand for feeds—particularly in the developed countries where the bulk is consumed. However, our projections are based on the assumption that the amount of feed used per unit of livestock will probably stabilize. Yet, there are indications that productivity in this sector will continue—a factor that would erode further growth in the demand for feed. It is possible, though, that the feed demand for oilseeds in the European centrally planned economies could be much greater than forecast, given the widely held belief that feed productivity in these countries could be increased by raising the protein content of feed rations.

Macroeconomic developments can and do disrupt agriculture. Policies that favored other sectors are being changed in many developing countries under their structural reform policies. But these policies can be blown off course by external developments such as depressed commodity prices, protectionism, and rising external debt. Indeed, despite some recent progress in rescheduling, external debt could still bring about a major upheaval in the world economic system, and hence in agriculture.

Another major area of uncertainty for the next few years is the policy reform process being undertaken in the European centrally planned economies. Agricultural reform is part and parcel of more general economic change which aims at relaxing some of the rigidities of central planning and allowing more scope for decentralized decisionmaking, including the greater use of economic incentives and market signals. Given the increasing links between agriculture and the rest of the economy, the success of agricultural reform will hinge on changes being made in the economy as a whole. If the reforms are not successful, then the cereal deficits of these countries could well increase further.

Perhaps the most important area of uncertainty facing world agriculture in the next few years concerns the reform of agricultural support policies and trade liberalization. The outcome of the Uruguay Round of the GATT MTN's—Multilateral Trade Negotiations—will be crucial. If it fails, we can expect an agricultural system in disarray, as it was most conspicuously in 1986 and 1987. If, as is to be hoped, the Round is successful and it meets its objective of "establishing a fair and market-oriented agricultural trading system" and there are "substantial and progressive reductions in agricultural support and protection," then a number of consequences are to be expected.

The results would depend on the number of countries liberalizing, the commodity coverage, and the extent of the liberalization. Under certain assumptions, liberalization of the industrialized countries' agricultural policies would raise world market prices, lower world price instability, and stimulate world trade.

This improved international market performance could lead to better incomes for producers, increase foreign exchange earnings, reduce the magnitude of sharp price shocks for consumers, and could improve efficiency in the use of resources.

FAO's analysis has concluded that the benefits to developing countries from liberalization in industrialized countries' agricultural policies would accrue mainly to substantial exporters of the commodities concerned.

However, some developing countries would incur losses. This highlights the need for multicommodity and multisector trade liberalization extending to all products of export interest to developing countries, and not limited to temperate-zone agricultural products, alone. This would enable developing countries, as a whole, to obtain increases in export revenues which would more than compensate for certain losses.

Other possible effects for developing countries following an across-the-board liberalization in industrialized countries' policies relate to increases in their overall level of real incomes, improvement in their terms of trade, and considerable gains in rural incomes—thus contributing toward food security goals.

Trade liberalization could therefore make an important contribution to what is by far the most important issue in achieving food security—and that is, ensuring that developing countries achieve adequate increases in their domestic production of cereals and other basic foods.

The primary responsibility for this must lie with developing countries themselves, and will only be achieved if suitable priority is given to agriculture and rural development. The international community will also need to help by providing technical and financial assistance. But it is only by unlocking the vast potential for agricultural production increase, economic growth, and increased income in developing countries that the poverty can be overcome and the purchasing power of developing countries be enhanced.

Finally, Mr. Chairman, some other important issues concerning food security could also begin to emerge in the move toward free trade in agriculture. The first concerns the role of food aid in the process of liberalization. While food aid will remain a relatively minor factor—the gains from freer trade being, in our view, of very much greater importance—food aid requirements will remain significant, especially for humanitarian purposes including emergency situations.

Traditionally, a significant part of food aid supplies has been due to the existence of surplus stocks built up as a result of price support activities. Moreover, a large share of food aid is fixed in value terms, so that the volume of food aid varies inversely with the level of prices. A rundown of price support combined with higher world prices for cereals following liberalization could, therefore, put downward pressure on the availability of food aid. Yet, food requirements arising out of emergencies must be met irrespective of the system put in place to govern the functioning of world markets.

The second issue concerns the overall lever of stocks of cereals. Presumably, the GATT objective of a "substantial reduction in support" would mean a much lower level of government held stocks and, possibly, a higher level of privately owned stocks. But the total level of stocks probably would be smaller.

Yet the variability of world supplies is likely to remain considerable. The weather will continue to cause large production fluctuations whatever the policy regime. Moreover, a move to free trade

will expose many farmers to more variable prices, which could destabilize output in their countries.

Whether the world under freer trade would be holding an adequate level of stocks is very hard to gauge. It is a subject on which more research is needed, and it is important not to come to hasty conclusions on this very difficult issue.

It would, however, seem plausible to suppose that the world would face an increased risk that, following trade liberalization, the global volume of stocks could fall short of the minimum required to safeguard world food security—an amount that is currently estimated by FAO to be equal to at least 17 or 18 percent of global consumption needs.

In this case, the establishment of an internationally coordinated system of nationally held reserve stocks would have to be placed at the top of the world's agricultural policy agenda.

Mr. Chairman, the goal of eradicating hunger and malnutrition is surely accepted as a common responsibility of mankind. According to the world food security concept adopted by FAO's Committee on World Food Security, the ultimate objective of world food security is to ensure that all people at all times are in a position to produce or procure the basic food they need.

As mentioned above, prime responsibility for achieving food security must lie with the individual countries themselves, through stimulating food and agricultural production, rural development, and economic growth.

While many other things are needed to achieve access to food—such as ability to import, availability of cash income, provision of adequate international support—the question of reserve stocks and their role in providing reasonable stability of supply is also one which must get attention.

In FAO's view, the international coordination of national stocks, coupled with assistance to developing countries to build and maintain their own stocks, could provide a basis for reaching an international understanding.

FAO is continuing its work in this field and wholeheartedly welcomes this subcommittee's decision to investigate this key issue of grain reserves.

Mr. Chairman, thank you for your patience in hearing me through.

[The prepared statement of Mr. Hancock appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you, Mr. Hancock.

Mr. Hancock, before I ask you any substantial questions for the record, would you state—not so much give me the charter of the FAO, but, in order that there is no confusion about the role of the United Nations and the FAO—what your functions are. Is it to be an advocate or is it to be a fact finder, or both?

Mr. HANCOCK. Mr. Chairman, the motto of FAO is "fiat panis," which means "let there be bread." We interpret this as "let there be sufficient bread for all."

We have an important information gathering and information giving function; however, I think that would be too narrow a mandate for FAO. We consider our mandate is certainly larger than that. We have a mandate to provide technical assistance. We also

have a role as a policy advisor, if we are asked in that fashion; but, at the same time, our role can only be satisfactorily carried out if we are completely independent and fair and do not take up any particular side in any argument but try and ventilate ideas, try and develop policies, and to suggest the implications of those policies, whether they are adopted by developing or developed countries. We must try to play a role which can, within the overall development of agriculture in the world, still help developing countries in particular. In short, our mandate is, in any way we can, to do away with the problems of hunger and malnutrition in the world.

Mr. GLICKMAN. Let me move on to specific issues. There is something in your testimony that may be contradictory and maybe not. You say "while food aid will remain a relatively minor factor, the gains from freer trade being of much greater importance"—and then you proceed to talk about food aid requirements. But the implication is that freer trade is a constructive, positive thing for the world.

Then you say, "However, a rundown of price support, combined with higher world prices for cereals following liberalization of trade could, therefore, put downward pressure on the availability of food aid."

Essentially, what you're saying is that a freer trade system might, in fact, work to reduce food aid both by the United States as well as other countries for humanitarian purposes. Is that correct?

Mr. HANCOCK. We would certainly think that this is a possible result, due to the fact that in the past at least food aid has been linked to availabilities in donor countries and that these availabilities have, to a considerable extent, been dependent on supplies which governments have built up as a result of price support policies.

Mr. GLICKMAN. So if we go to a world supply system without price support policies like we have now, then it is likely that the free market, itself, will obviously not provide the government with formal excess supplies or stocks to then transfer to needier countries? That's your point?

Mr. HANCOCK. Yes, and the second point, sir, if I might point out, is that in view of food aid availabilities frequently being set by budgetary limits in terms of sums of money, if world prices increase, then, by definition, the quantities of food aid may thereby decline because the same amount of money at higher prices will only purchase lower quantities.

Mr. GLICKMAN. It is interesting, because you are assuming, then, with freer trade, prices will go up as supplies go down? That is, the Government's role will be removed from the marketplace so you will actually have less production with freer trade than you do under the current system?

Mr. HANCOCK. I'm not sure that we could be sure whether the effect is going to come on the supply or demand side. It could go both ways.

For instance, with liberalization of trade, consumption of grains, for instance, in the EEC would be expected to go up, not because of the higher world market prices, but because changes in EEC policy would require that farmers get their grain requirements for animal

feed at world market prices rather than the very much higher prices they pay now. Therefore, this question of the extent to which liberalization would increase world market prices is a very difficult one, and it has been investigated by many researchers. It depends very much on the basic assumptions one makes.

But there is a lot of evidence suggesting that, particularly for the major temperate zone agricultural products—such as grains, meat, and dairy products, trade liberalization, depending on the degree to which that liberalization took place, depending on the countries in which it took place, and so on, that world prices might rise—not necessarily from any particular level, but compared with the average world prices of recent years.

Mr. GLICKMAN. But, in summary, your point is that freer trade will probably produce less food aid by developed countries?

Mr. HANCOCK. That would be the conclusion, sir, based on the current food aid policies of those countries.

Mr. GLICKMAN. Now, let me move to another final question before I go on to other members here. You say, "In this case, the establishment of an internationally coordinated system of nationally held reserve stocks would have to be placed at the top of the world's agricultural policy agenda." There was discussion years ago about doing this same thing. Why have past negotiations on some form of world food reserve failed?

Mr. HANCOCK. I think the result of international negotiations must depend on the will of the countries taking part in those negotiations.

Mr. GLICKMAN. The politics of a world divided into many producing and consuming countries have made it so that these negotiations haven't proceeded.

Mr. HANCOCK. That's right.

Mr. GLICKMAN. Saying that, based upon your models in terms of what freer trade will do, if we don't have some sort of reserve, assuming that is out of the model and we have obviously diminished Government role in farm policies in respective countries, then what will happen? Will you see shortages develop in Third World countries? This is assuming no reserves.

Mr. HANCOCK. I think it is hard to say. It is a very difficult thing to assume that there are no reserves. One of the changes that has taken place over recent years is that many countries have managed to increase their own national reserves. India, for example, in recent years has managed to build up—and subsequently to draw down—on considerable national stocks.

If there was liberalization of trade, there would be various developments which would vary in different countries. In some countries there would be lower prices, there would be perhaps more stability of supply, or there would be a tendency for the private sector, if they saw the possibility of price variation, to become more important as a stockholder.

In the past, in those countries where the Government has been the major stockholder, probably the private sector has been somewhat constrained in holding stocks since it knows that the criteria that the Government is using for holding or releasing stocks is very different from the criteria that the private sector would use.

In a more liberalized trade situation, one would expect the private sector to hold more, but it would not necessarily be so. The quantities that the private sector held might not be sufficient, nor might they be timed suitably so that the stocks held might be made available for humanitarian and food aid purposes.

Mr. GLICKMAN. One final question—and your entire statement will appear in the record. In the newspaper this morning there were some quotations by a Mr. Lester Brown of Worldwatch, whom I'm sure you are aware of, talking about great concerns on environmental and ecological damage affecting world food production. Has the FAO done any definitive studies on this? Do you have any comments on what he said?

Mr. HANCOCK. Certainly FAO has not undertaken definitive studies. And, in fact, I might even suggest that at this stage it would be exceedingly hard for anybody to do definitive studies in circumstances where knowledge is moving so fast and where the problems appear to be exceedingly variable and exceedingly difficult to define.

In general, Mr. Chairman, while we certainly know of Mr. Brown's work very well, we perhaps are neither in agreement nor in disagreement with him. There are, in our view, enormous possibilities for developing world food production. We feel that the developing countries, themselves, have the inherent capability for so doing. But, at the same time, the problems of achieving this increase without doing damage and particularly environmental damage to themselves, are very great. These problems are probably increasing, and will certainly add to the difficulties that the developing countries have in trying to increase their agricultural production in tune with their very rapidly increasing demands.

Mr. GLICKMAN. Thank you very much.

I'm going to go in order. Who was here first? I believe Mr. Grandy was.

Mr. GRANDY. Thank you, Mr. Chairman.

Mr. Hancock, I noted that in your testimony you were making some reference to various sectors around the world that have been suffering hunger and malnutrition. One of the places that you mention is sub-Sahara Africa. Talking about the drop in per capita agricultural production in sub-Sahara Africa over the last 25 years, doesn't that have something to do with the fact that sub-Sahara Africa has gone through probably one of the most major political evolutions and it, at this point—at least from my reading of those countries now that would consider themselves in the Southern Africa Development Countries Coalition; namely, Zimbabwe and Zambia and Mozambique and the countries that surround South Africa—all of them have gone through some kind of major political upheaval. Indeed, two of them are in the midst of civil wars, or have just completed them, which has severely impacted on all of their infrastructure, most notably their railroads, many of which are dependent upon South Africa.

In addition to that, these are economies that, because of their need for currency, have probably relied much too heavily on mining of precious minerals and substances which they cannot eat or wear, and there have been some decisions that have been influenced clearly by battleground decisions in Angola, in Mozambique.

Both of those countries have been fighting a civil war. You have one country that is going to have its first election—hopefully—some time this fall, Namibia.

So I bring all this up because I wonder how much an international grain reserve or a commitment to providing some kind of world food stock is going to figure in to some of these local decisions. I know, for example, that a country like Botswana—which is, incidentally, probably the only pluralistic Government down there other than South Africa—is beginning to expand and develop its agricultural plant, principally livestock. Now, this is advantageous for them, even though they are predominantly a desert.

But until countries like Botswana begin to make those internal decisions, as you say in your statement near the end when you say “Prime responsibility for achieving food security must lie with the countries, themselves, through stimulating food and agricultural production, rural development, and economic growth.” Until you have countries like this doing this, I really don’t understand what we can hope to accomplish.

We predicted the Malthusian nightmare to take place in India, and actually just the reverse has, so that they are a net producer of grain but, at the same time, creating domestic policies which, in a sense, tax the production and subsidize the consumer—probably something that this country and this economic policy would disagree with.

So at one point in your statement you are talking about slow-down in growth rates in developed countries could be an excellent opportunity to adopt policies more sensitive to environmental needs. Like what? What would you suggest that we adopt, either as a nation or an international consortium or through FAO? My feeling is that environmental needs usually come during a period of economic stability. That is the second priority after a country’s economy has at least righted itself to the point where they can be concerned about highly erodible land and preservation of wetlands and restoring fragile prairies and things of that nature. But I don’t see that in sub-Sahara Africa. I think they’ve got economic concerns that they’ll be considering probably for the next 20 years.

I’m just wondering how we step in and make this better. I have seen an excellent presentation of the problem, but I’m a little concerned about what solution lies behind your presentation here.

Mr. HANCOCK. May I proceed, Mr. Chairman, to answer Mr. Grandy?

Mr. GLICKMAN. Yes.

Mr. HANCOCK. First, on the African situation, certainly FAO would be in full agreement that the problems of Africa have stemmed from a wide variety of reasons—political, climatic, infrastructural, and so on. And certainly we have good hopes—and, in fact, things are already moving. Many countries—as you, yourself, have said, sir—are beginning to adapt their policies and to move ahead.

However, we would still feel—perhaps somewhat pessimistically, but also perhaps realistically—that it is going to take time, and there are going to be difficulties. It is not likely that the present emergencies or type of emergencies are going to completely finish.

The sooner they do, the better. But I think one has to expect and make allowance for the possibility that this will not happen.

The vagaries of crop production, variations in output—those, too, are likely to continue so that we certainly foresee some need for continuing food aid.

However, as I have said, we certainly look on food aid as being essential, at least for the time being. But we would hope that the needs for it can be contained and even reduced.

Mr. GRANDY. Mr. Chairman, may I ask just one more question? This is a very simple answer, I hope.

Mr. Hancock, would you prioritize agricultural technical assistance in the form of providing information and education on sustainable agricultural techniques to the seven or eight countries of sub-Saharan Africa prior to providing food assistance? How do you prioritize?

Mr. HANCOCK. I think, Mr. Chairman, there's no doubt about that in the least. Certainly, FAO is doing all it can to increase agricultural production through technical advice and trying to obtain financial support for those countries to increase their own agricultural production.

Food aid, in our view, is necessary, but certainly not of long-standing and permanent use to the developing countries. It can occasionally be used for development purposes, and is needed for emergency purposes—which is now one of its major uses—but certainly we would hope that this need would decline.

Mr. GRANDY. Thank you, Mr. Hancock.

Thank you, Mr. Chairman.

Mr. GLICKMAN. Thank you.

Mr. Penny.

Mr. PENNY. Thank you, Mr. Chairman.

Mr. Hancock, you made reference to a worldwide reserve. I assume that you intend that that reserve would be held within various producing nations. But I'm curious to know how you envision the mechanics of monitoring and maintaining a reserve when you have so many players involved.

Mr. HANCOCK. Mr. Chairman, I think the modalities of operating such a system would undoubtedly depend on the willingness of the countries concerned to participate in such a system of international coordination, and this would certainly have to be negotiated between the governments which were party to such an understanding.

Therefore, we would not have any prior clear ideas on how it might be done. However, I think, based on previous negotiations and also certain arrangements that are already in operation, one could see a number of possible bodies or fora that might be involved.

But there are already certain things that are going on either in the International Wheat Council, in FAO's Committee for World Food Security, such as the IEFER—International Emergency Food Reserve—the Food Aid Convention, the Food Security Wheat Reserve system of this country, which all provide possibilities which might be built on and adopted perhaps by other countries or changed to make them more suitable for other countries' circumstances which, in our view, could, in the end, provide the basis for

some kind of internationally negotiated understanding on grain reserves.

Mr. PENNY. It has been recommended that as we write the 1990 farm bill we include in our Farm Program calculations an allotment that would be set aside for foreign food aid efforts. I imagine we would have to identify some quantity of food to set aside in that regard, and then, on a year-to-year basis as we draw down those stocks, identify a somewhat lesser quantity to refill the amount taken out. Is that something that you would recommend that we include in our next Farm Program?

Mr. HANCOCK. Mr. Chairman, I think it is very difficult for myself, as a representative of FAO, to suggest what might or might not be a particular policy initiative or policies which might be part of an overall national farm bill. Therefore, on those grounds, I would ask to be excused from a too precise answer to that question.

Mr. PENNY. It does seem that if we are going to assure that stocks are available for those emergency food aid situations that it would be disruptive to have a supply and demand situation that was consuming virtually all the grain produced, and then to have an emergency crop up which forced us to buy into a tight market. Again, it is for that reason that some groups have recommended that we identify a quantity for food aid purposes and factor that into our farm program so that production levels would help to fill that reserve.

Again, I sense your unwillingness to embrace or endorse any specific policy that might become part of our farm bill. But we do have to, as we look at our Farm Program, do something that makes sense for our domestic producers, and that means we're going to continue some kind of a price protection mechanism. But we're also trying to satisfy two global concerns, and one is the price-support mechanism domestically that doesn't have a price-distorting effect on the international markets. And the other is protection for domestic markets and domestic prices that still makes room for those food aid needs when they occur. We don't want to have one negatively influencing the other. Maybe in general themes you could say one or two words of support or opposition for that approach.

Mr. GLICKMAN. The gentleman is recognized for an additional 30 seconds. Go ahead, if you want to respond quickly.

Mr. HANCOCK. Certainly. On this one, I think that, as I said before, we generally have misgivings that certain policy changes which have already taken place in major grain exporting countries could certainly lead to lower Government-held stocks and that—although private stocks may increase—the overall effect may well be to lower the level of stocks which are held in the world.

Now, although certainly under a more liberal trading system one would expect countries to be able to come in with increased production quite fast to correct any temporary shortage, this might well be delayed too long to deal with current problems, and particularly current problems which might arise in the developing countries which were not able just to go out onto the market and buy the supplies they need at the higher world market prices. This is where we see the continuing need for food aid, and also, therefore, to back up that, some kind of guaranteed reserve of certain quantities which might be needed, and this would have to be subject to negoti-

ation as to how large those quantities were, so that these would and could be available at any time for immediate use by the international community to deal with humanitarian problems and various emergencies that might crop up.

Mr. GLICKMAN. Thank you very much.

Mr. EMERSON.

Mr. EMERSON. Thank you, Mr. Chairman.

Mr. HANCOCK, looking back over the past quarter of a century it is clear that agriculture has made considerable progress. The world, as a whole, is better fed today than the beginning of the 1960's. And technology has succeeded in raising productivity. The world food trade has expanded rapidly, and agriculture forged closer links with the rest of the economy.

I would agree with all of that, and I think that what we should continue to do is to build upon those successes.

You go on to point out that yet the progress achieved has not been shared by all countries or continents; nor has it eliminated hunger and malnutrition. I think that is also an obvious fact.

You go on to point out that factors affecting this unhappy situation that this progress hasn't been shared by all countries or continents include protectionism, in some instances, massive external debts, environmental considerations, the instability in cases of food supplies and prices and, indeed, weather has always been a factor and, no doubt, is going to continue to be a factor. I would also suggest that war and revolutions are factors. I don't think we're ever going to achieve 100-percent satisfaction in the supply and demand situation in all corners of the Earth. I don't think it would be realistic to expect that.

The processes of addressing these problems are never done. We constantly reexamine them. Certainly the work of a lot of other committees are going to influence the factors that you mentioned here today.

But I would like to ask you, in a nutshell, what mistakes we have made in current law that adversely affects the world food supply or what singular step we could take that would enhance that supply in the 1990 farm bill. I don't dispute all of these other—this committee is not going to deal with the debt situation. We're probably going to have some bearing on the trade situation. We're probably not going to deal with the weather or the environment very much here in this committee. But what could this committee do that would ensure greater stability and availability in the food supply to all corners of the Earth?

Mr. HANCOCK. Mr. Chairman, maybe I could suggest three areas. I would certainly agree with Mr. Emerson in saying that we cannot ever hope to achieve all the hopes we might have, but we've got to try and move toward the aims we have in mind.

I would say that the first is to release the available potential of developing countries to produce a relatively large amount of the food they need themselves domestically. Second, through trade liberalization one could hope to minimize the adverse effects on developing countries that the protectionism in industrialized countries has caused them. Third, to maintain and improve the system by which, for humanitarian purposes, and particularly difficulties arising in certain developing countries by which these emergency

requirements of food can be better dealt with by the international community.

Mr. EMERSON. But I think we do that—your third suggestion—in significant measure through Public Law 480. The United States has always been exceedingly conscious of this need and, quite frankly, I think we have addressed it quite well. That doesn't mean we can't improve upon it.

But back to your point No. 1, for example, I've experienced, as I'm sure many of my colleagues have this year, a great deal of frustration with the situation in Sudan. In reading in the national media about Sudan, one would believe that this country had no produce and no crops whatever. The fact of the matter is that Sudan has an adequate supply of food produced within its own boundaries; yet, there are people starving in Sudan. It has nothing to do with the selfishness of the United States or of Western Europe or of countries that have a surplus of food.

Now, what, then, is the reason? If I may extend my time 1 minute or so, Mr. Chairman, just to explain the complexity of this thing, because I think we need to have a consciousness of this before us as we try to address these problems.

There is a civil war in Sudan. One side keeps the other side from getting food through to certain critical areas. So then we arrange for a cease-fire. Through the intervention of our Government, congressional committees, the State Department, USAID, other countries serving as intermediaries we have a cease-fire between the Government and the rebels in Sudan. And you would think that this would set the stage for the food supplies to get through to the people who are starving.

But then we find that there are roving bands of bandits who aren't affiliated with either the government or the rebels, and they attack the convoys and steal the food. Then we have debates for weeks on end whether it was really the government or the rebels, and we find out that it was roving bands of bandits who weren't affiliated on either side who were simply stealing the food for their own purposes.

I maintain we're always going to have problems of that sort and that we must be very careful to not confuse these artificial impediments that do, indeed, cause people to starve to death with the food supply.

People in Sudan should not be starving. They have an adequate amount of food within the bounds of their own country to prevent that. Things didn't work in such a way for that to occur, so the United States and other countries stepped in and, even notwithstanding those monumental efforts, people still died and were hungry. It has absolutely nothing to do with the availability of food. It does have to do with the ability to get food to a particular point in time to be able to be of benefit to the people.

I'm simply suggesting here—because I somehow get the impression in your testimony that there is a general conclusion that the Governments of the world who know better aren't doing well enough to try to take care of those who don't know better, and I don't really believe that is the cause of starvation and malnutrition in the world where we know about it.

Other points that have been raised are very legitimate. How early on do we know about the shortages of food and things like that do affect our ability to deliver it. But there are so many factors extraneous to the general availability of food. I think we've got to be very careful not to confuse the two issues.

Mr. GLICKMAN. Mr. Roberts, I would just say—and I've been the biggest offender of this—we're going to have two or three rollcall votes right at 12 noon, so the faster we can move through witnesses, they will not have to come back this afternoon.

Mr. ROBERTS. I thank the Chair.

Mr. HANCOCK, I want to thank you for your excellent testimony. I think you have done—referring to your motto of trying to ventilate some fairness here, you've done that. We have our own motto. If yours is "fiat panis," let there be bread; ours, in Kansas, where we grow more wheat—or we used to, at least, and we will next year—than any other State, is "Ad Astra Per Aspera," which means to the stars through difficulty, and it is some of this difficulty that I see with people who want to, as my colleague from Missouri said, use the farmer as a pawn in this business, that we try to overcome.

On page 3, I would simply tell my colleagues that you have said the tight situation in these markets in the past year or so should, according to our assessment of the longer term, be followed by a period where global agricultural production will rebound. I would simply underscore that, because I believe it. And I'd like to ask you, when you get into your comments on page 10 in regard to the surplus, you say, "traditionally, a significant part of food aid supplies has been due to the existence of surplus stocks built up in price support activities." And then you go on to make some observations which are very true about the surplus. But what is a surplus? What is the definition of a surplus? Are we talking here about—is a surplus really defined as a food reserve? I know a lot of my farmers think of it in that capacity. Is it ample stocks to use in the Export Enhancement Program as a trade policy tool? We have used it in that fashion. Is it a bank in this country to provide reasonable food prices—or what some of us call a "cheap food policy"? I don't mean to perjure that. Is it a selective form of price controls, as I have indicated earlier? I think that is the case to some degree. Or is it all of the above? I think we'd better define what a surplus is. What is your definition of a surplus?

Mr. HANCOCK. Let me admit, Mr. Chairman, I don't have one. There are certain circumstances, particularly at the world level, in which one would say there was a surplus. And under others, that there certainly was not. The gray area in between is immense—is certainly very much greater when you look at it within national policies and the aims of those national policies.

Certainly 2 or 3 years ago, when grain stocks in the world were very high, at that stage many people were talking about surpluses. Clearly not all that quantity was surplus. There is always a need for stocks. But at some stages there are marginal quantities, at what you might call the top of the pile, which could be considered surplus. This was certainly the feeling 2 years ago that world stocks were—not to use the word "surplus"—widely considered to be excessive.

Since that time, there have been policy changes which coincided with weather-reduced crops and the speed with which those stocks have been drawn down has surprised many people. That, in such a short time, one could move from a situation where there did seem to be very high, excessive stocks to one where they have largely disappeared was unexpected. There has been considerable surprise at the rate at which these have been brought down.

Mr. ROBERTS. I thank you for your comments. My definition gets a little more parochial when you are facing the producer at the country elevator in regard to short, jerky sentences on his part and in regard to the ability to stay in business. I have always thought a reasonable surplus in this country was somewhere between 400 and 600 million bushels. We are at 500 million now. That usually reflects back to the country elevator in a price of around \$4. And the producer, around the coffee table, when you're meeting with him, gets somewhat mellowed out. At least he can stay in business. And we have succeeded. The farm bill has succeeded.

And then now, since we have succeeded, here we are into this role of additional criticism because we've succeeded because the stocks are too tight. I have a little blood pressure about that. I do not think that we are going to be successful with an international grain reserve. We have gone down that road before. We have tried. It is a noble goal. Perhaps it can be a useful tool down the road.

But I remember when Mr. Schnittker was working down at the Department of Agriculture. He is from Kansas, and he is a learned gentleman and a friend to us all. I was working for Senator Frank Carlson at that particular time, known as "Mr. Wheat" in the Congress, and it was 1967, as I recall. We went down that road to an international grain reserve which, in the end result, because of competing interests and politics and what the chairman indicated, didn't work very well. I don't think with the current atmosphere with the GATT talks that that is an answer.

I want to ask you if, in fact, on page 12 you say "we accept as a common responsibility of mankind to eradicate hunger and malnutrition." Why do we have to build up a surplus, pay the farmer, with all sorts of complexity and misdirection plays, the difference between the cost of production hopefully and that surplus and have the taxpayer pay for that? Why don't we just pay for it? Why don't we have a cash reserve.

If, in fact, this is so terribly important—and it is—why don't we just pay for it and buy it out of the market and simply eliminate all the rest of it? If somebody is hungry and the need is there, the U.S. Government, under a particular program, can buy the grain. It is the farmers' grain, not the State Department's grain, not your grain, not my grain.

He is getting a reasonable price for it now—always too low. And I would admit that my view of the surplus is that it is always too high. I have sort of a First District of Kansas dyslexia in regard to carryover.

Mr. GLICKMAN. Wasn't there a joke about dyslexia that I have heard you tell before?

Mr. ROBERTS. Yes. Do you want me to tell it again? [Laughter.]

Mr. Emerson said to spare the audience. All I simply said was that it was like—what did I say? Oh, yes. It was the atheist who

had dyslexia who stood up and shouted "I don't believe in dogs."
[Laughter.]

That's a pretty poor joke, but I think in terms of what we are doing with the carryover here some people are suffering from carryover dyslexia. Why can't we just buy this on the open market? Any reserve that you can think of is a selective form of price controls, and I think now that we have achieved success with a carryover we have a reasonable price at the country elevator, and here we come again with the "Poltergeist" folks saying, "Oh, boy, here we are in short supply. We have to, because of all these other things, build up a carryover."

Mr. GLICKMAN. Would my colleague yield for a moment?

Mr. ROBERTS. I'd be delighted to yield.

Mr. GLICKMAN. I don't want to unnecessarily put Mr. Hancock into the hornet's nest. He comes here from Rome with the International Food and Agricultural Organization, and he really doesn't—I assume he doesn't know very many of the intricacies of U.S. farm policy, and he has not been the voice of gloom and doom during his testimony today. So I don't want him to——

Mr. ROBERTS. Mr. Chairman, if I might reclaim my time, I have been very kind to Mr. Hancock. He has traveled a long way and he has given good testimony. The only reason that I am getting a little upset is because he happens to be in front of me and is a ready target. I'll be happy to be just as bushy-tailed with everybody else. And his answer is a very good one. When I ask why can't—if this is so important, why can't we have a cash reserve? His answer is that there shouldn't be any reason. Isn't that right, Mr. Hancock?
[Laughter.]

Mr. PENNY. Mr. Chairman, I object. If he gets a straight answer out of this guy when I couldn't, I really don't think that's fair.
[Laughter.]

Mr. GLICKMAN. But you're not dyslexic. That's your problem.

Mr. ROBERTS. I yield back, Mr. Chairman.

Mr. GLICKMAN. Thank you.

I think that Mr. Smith was next.

Mr. SMITH. Mr. Chairman, in view of the questioning that has not been answered, I have no questions.

Mr. GLICKMAN. Thank you.

Mr. English.

Mr. ENGLISH. Thank you very much, Mr. Chairman.

Mr. Hancock, isn't the real problem that we're facing is that you really have two markets you're dealing with in the world? You've got the hard cash market. That's what everybody really wants to compete for, and that's what everybody is interested in selling to. And then you've got the soft currency markets that really don't have much enthusiasm. The real problems with regard to shortages of food come in that soft currency market. Isn't that basically what we're looking at?

Mr. HANCOCK. This certainly has been largely the situation in the past. However, I think one may find, particularly if there is further liberalization of trade, that these two markets will tend to blend closer together. There may be an increasing number of—and one would certainly hope there were—developing countries that might be able to enter the commercial market.

Certainly, if they do get support to change their policies and increase their economic growth and agricultural development, one would hope that the so-called commercial market might become a little wider. However, certainly there would still remain the soft market and the aid requirements and, although we would hope that this would be decreased, we certainly do not see it disappearing in a hurry, and we feel that there is this requirement which will remain.

Mr. ENGLISH. Yes. But if one were looking at need and looking at the concern for the greatest amount of hunger, we're likely to find it in those soft currency markets, not in the hard currency; isn't that correct? And that's where the growth is taking place. The growth in demand is really going in that direction, is that not true?

Mr. HANCOCK. Excuse me, sir? The growth in the—

Mr. ENGLISH. Population explosions, the number of people, the number of hungry people, the number of people that made food, where there is greatest amount of demand, and where the growth in that demand is taking place is basically in those soft currency markets.

Mr. HANCOCK. Basically the greatest growth in demand will be in developing countries where, in our view, one would hope that they will be able to produce most of the food that they need, themselves.

Mr. ENGLISH. Yes, but can't and aren't and, in the very short future, are not likely to.

Mr. HANCOCK. In the very short future, certainly.

Mr. ENGLISH. We also have a problem here, of course. We've gone through what I think many of us, particularly from grain-producing areas, would call an "agriculture depression." We have had very low prices. We have had a lot of farmers driven off the land. We now have concerns being expressed with regard to the environment. Ground water is going to be one of the major issues that we're going to be looking at.

The farmer, in a way, in American agricultural policy, it would seem to me is really caught in between two demands. On one hand, we have the demand here that we ought to be producing more, we're going to have a shortage of food, we don't have a big enough reserve. We've got that kind of concern which, I suppose if we go that direction, is going to drive down prices and increase the cost to the taxpayer and drive a lot more farmers off the land.

Then, on the other hand, we've got this concern from an environmental standpoint in that we've got the contamination of ground water. A lot of people are pointing their fingers at agriculture saying you're using too much fertilizer, using too much in the way of pesticides, and we've got to cut all that back, which is certainly going to reduce the production of this country.

So I guess, really what I come down to is, that we've got a real dilemma from the standpoint of trying to decide in which direction we should go. Do we respond in producing more and pouring on the fertilizer, pouring on the pesticides, and trying to meet the demand in the direction that I think you'd like for us to go? Or are we going to respond to the environmental problems that we're facing? That's going to be the real dilemma that we're going to be facing in agriculture next year in trying to write a farm bill.

In your opinion, should we scrap concerns over the environment?

Mr. HANCOCK. Mr. Chairman, in my testimony I brought out the point that, in our view, if the growth rate of cereal production in the developed countries needs to be reduced, then the fact that there are environmental concerns and pressures may make it easier for those countries to overcome the problems that are arising in that form and still produce what they need.

Certainly, it is our view that productivity increases in yields due to technology will continue; but, at the same time, clearly one is going to have the other pressures—the environmental pressures—which may make it more difficult for all these technologies to be applied, and there may have to be reductions in the degree to which some of those technologies can be used in the interest of environmental concerns.

Mr. ENGLISH. I'm not sure what you told me, Mr. Hancock, whether you want us to increase production or whether you want us to decrease production. Obviously, one path or the other has to be chosen. We cannot have both. We cannot continue to increase production and, at the same time, expect that we're going to be able to address—certainly to the degree that a lot of people in this country would like—the environmental concern.

So I guess the point I've got to ask you is that we've got to make a choice. Are you telling us that, in your opinion, we should continue to try to increase our production and turn our back on the environmental concerns of a lot of these people? Or should we face the environmental concerns and recognize the fact that this is probably going to mean higher prices in the world? It is probably going to mean that there is going to be less food that will be available to those soft currency markets, those developing countries, and they're going to have to understand the difficulties that we have there? Which way do we go? We are in this business. I'm just asking you for your opinion. Which one has priority?

Mr. HANCOCK. Mr. Chairman, I think this is a very difficult one for a member of an international organization—

Mr. ENGLISH. Think of what it is like for being a Member of Congress that's going to get to deal with this.

Mr. HANCOCK. But I think it is very hard for me to say point blank whether U.S. production should increase or whether it should decrease.

Mr. ENGLISH. I'm not asking you that. I'm asking you the question: Which should take preference? Should it be increased production to satisfy the food needs that you're talking about? Or should it be the environmental concerns that we will be facing not only in this country, but other countries around the world. Which one should take preference?

Mr. HANCOCK. Mr. Chairman, I would wonder whether the two are totally opposed. Taking care of environmental concerns I would have thought was not necessarily inconsistent with further increases in production.

Mr. ENGLISH. Well, I'd be very interested—and so would my farmers—to have you explain to them, then, how we increase production without fertilizers and without pesticides.

Thank you, Mr. Chairman.

Mr. GLICKMAN. Well, Mr. Hancock, in a sense I kind of feel sorry for the position that you have been put in, because you have been

asked to deal with a lot of specifics on U.S. farm policy and other kinds of things to which I don't think you are quite able to adequately respond.

I do think Mr. English's question is an important question that FAO and the UN has to deal with. I agree with you. I'm not sure the two are inconsistent. There may be options on environmental issues that don't necessarily involve reduced production at all. And I do think that it is critical for us to look to UN and the FAO to provide some guidance in this area because not all of it can come domestically from the United States. And that is an appropriate question for you all to be involved in.

You're not expected to figure out what our set-aside should be and how much we should produce, but I do think some of the larger issues—which not only relate to pesticides here, but relate to reforestation issues and all sorts of other things—are things that the international community has to get involved with, and that's where we look to you.

We appreciate your coming to testify. I'd like to restate what I said at the beginning. This is not an idle subject. This is an important subject for us to deal with, and that is to have the flexibility to deal with world shortfalls of food. It has been an historic principle of the United States, particularly, to take the leadership in this area—and we've done it quite well. We just have different market and environmental conditions in the future, and, therefore, we have to be flexible enough to deal with them. But it is not a passing problem. It is a real problem that we are going to be dealing with for some time. It may be resolved by technology—being able to produce as much as we can without worrying about it—and we will have witnesses on the next panel to deal with that.

But your testimony has been useful—particularly the attachments to your testimony. We appreciate your coming here all the way from Rome, Italy. I know that it was quite a journey for you to make. Thank you very much for being here.

Mr. HANCOCK. Thank you very much.

Mr. GLICKMAN. The next panel: Mr. Dennis Avery, Hudson Institute; Dr. John Schnittker, Schnittker and Associates; and Mr. Charles Sykes, assistant executive director of CARE, Washington, DC.

Why don't you go ahead and begin, Mr. Avery. We appreciate your being here.

Before I begin, I think Mr. Roberts wanted to say a quick word. I apologize for the length of time it took us on the other witnesses. We have five witnesses, and we'd like to be out of here in about 50 minutes. So, as usual, that happens. But I do find that people can summarize if they have to, and they can get their important points out in 5 minutes if they have to, and so we would ask you to do that the best you could. But first I would yield to my colleague.

Mr. ROBERTS. I thank the chairman for yielding, and I beg my colleagues' indulgence. I apologize to the two witnesses in that I do have a conflict and I must leave the subcommittee. This is a very important topic.

I want to commend you for coming to the subcommittee, and especially for your statements.

I would inform my colleagues that I think Mr. Avery's testimony is right on the mark. It hits my prejudice, and so obviously it is a very learned piece of testimony. But he says on page 12 of his testimony that it is more appropriate to worry about the speed of our food aid responses than building up still larger grain stocks. He goes on to talk about the infrastructure problems and investments in human knowledge—especially agricultural research. I think it is a very fine statement, and I am in full agreement with it.

I must extend a very cordial welcome to Mr. Schnittker, who is a fellow Kansan. What John has suggested, Mr. Chairman, reflects the real world, I don't think that they're going to pass the Pat Roberts' amendment to have a cash reserve in regard to food security. I will try. I will offer the amendment. I will make an impassioned plea. But I don't think it is going to happen.

And so, in lieu of that, I think John has some excellent proposals that could perhaps lend some stability and some predictability to this which is what we'd like to have, either if you are a farmer at the country elevator or if you are a suffering human being in a country visited by my colleague, Mr. Emerson.

With that, I want to thank the two witnesses for their excellent testimony, and I thank the Chair for holding the hearing.

Mr. GLICKMAN. Mr. Avery, why don't you go ahead and proceed. As I said before, your entire statement is in the record.

STATEMENT OF DENNIS T. AVERY, SENIOR FELLOW, HUDSON INSTITUTE

Mr. AVERY. Thank you very much.

I would like to stress three points this morning. The first is the enormous power of the advances in human knowledge that are taking place around the world and amplifying our agricultural production capability. I'd like to underscore the importance of national policies in the food short countries for encouraging the farmers there to be able to produce at least the base calories needed to combat hunger there. And, finally, I'd like to underscore the importance of understanding the growth in the world's food security produced by the increased availability of feed grain stocks against the occasional shortfalls that occur.

Over the last decade, I have been force-fed an almost daily diet of bulletins and information on new high-yielding seeds, new irrigation investments, new farm-to-market roads, and other things that amplify the world's ability to produce food. Together, these technologies and investments, when properly supported by a national policy, have an enormous capacity to increase food production.

On this basis, I have become known as an optimist on the world's ability to feed its growing population over the next several decades. We think that this can be done and that, in fact, world diets can improve. This is in sharp contrast to the view of Dr. Lester Brown and the Worldwatch Institute.

I'd like to make the point—Dr. Brown may or may not agree with it—that he is more an advocate than an analyst, and that his concern about population management frequently colors the statements that he makes about food production potential.

Dr. Brown is—at least in some quarters—regarded as rather harmless and well meaning, even if you don't agree with him.

I'd like to point out that the writings of Dr. Brown and other limits to growth advocates contributed in the last 15 years to at least a perception of coming world food scarcity which did not occur, and that misconception contributed materially to the farm depression that we had in this country in the 1980's. Equally serious, Doctor Brown has left the public in serious doubt about the effectiveness of agricultural research and development investments, in spite of the fact that those investments have been an outstanding success for the world.

I'd like to underscore again that the world's average yields of wheat have increased 36 percent since Dr. Brown wrote, *By Bread Alone* in 1974. World rice yields have increased 38 percent. Coarse grain yields have risen 30 percent. And those yield gains have been strong enough in most years to produce global surpluses of grain.

Gentlemen, the reality is that we are living in the golden age of the plant breeder. Plant breeders have produced cold-tolerant winter wheat and barley, shorter-season corn, short-stalked rice and wheat, hybrid sunflower seed, low-acid rape seed, and pest-resistant cassava. They have practically invented a high-protein grain called triticale. They are cloning new palm oil varieties that double vegetable oil yields. They have produced new farming systems that use these seed varieties in more and more effective ways. And such improved seed varieties are now probably available for at least 90 percent of the world's farmers.

Moreover, most of the world's use of fertilizer is probably sustainable. As a result, world food production has been outstripping population gains even as we pass through the historic peak of population expansion.

There are two new technological developments to which I will call your attention.

The International Center in Mexico has now rebred and released the famous high-lysine corn from the 1960's. These new white corn varieties have 90 percent of the nutritive value of skimmed milk.

We are also probably close to the approval of pork growth hormone, pork somatotropin. It will cut carcass fat in hogs by one third. It will raise lean meat yields by 5 to 10 percent. And it will cut feed grain requirements in pork production by 25 percent. It will be a very powerful technology, because it will cut farm costs and it will produce an improved product for the consumer, and it could improve the efficiency of pork production in the world by the equivalent of 30 to 40 million tons of grain. That is a very powerful technology. It is an illustration of what we are headed for as science continues to advance.

In addition, the people who think we are going to be short of food are overlooking such underutilized resources as U.S. set-aside crop land, and the Brazilian Cerrado Plateau—125 million acres. They have a new corn variety that yields up to 135 million bushels in the Cerrado. Argentina could probably triple its grain production if the world really needed that much additional grain.

In the reserve situation, I'd like to point out that the world's food aid requirements for the last two decades have averaged a little over 10 million tons of grain per year. That is a very small amount

of grain compared with either our reserves or our production. It does not take very much grain to satisfy those hunger requirements. They are very important. They have to be met. But they're not very large in an average year.

I'd like to point out, also, that the world's food supply is importantly buffered and increasingly buffered by feed grain availability. Just in this last year, American farmers have shifted 20 million tons of grain from our livestock feeding complex to make up for shortfalls in other parts of the world. And since 1974, the volume of grain being used in livestock and poultry has risen 40 percent from 465 million metric tons in 1979-80 to a current level of 650 million metric tons.

If the FAO is concerned about having adequate grain available, I think we could turn, in an emergency, to those feed grain supplies. In fact, 100 million tons of that 650 is wheat.

It is our belief that the world can, indeed, be well fed in the future, and we certainly hope that it will be.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Avery appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you, Mr. Avery. I have read your entire statement, and it is comprehensive in dealing with a whole litany of parts of this puzzle. We appreciate your providing it today.

John Schnittker was introduced by my colleague from Kansas. He is a Kansas native and a good friend of mine.

John, it is a pleasure to have you.

STATEMENT OF JOHN A. SCHNITTKER, SCHNITTKER AND ASSOCIATES

Mr. SCHNITTKER. Thank you, Mr. Chairman.

It is a good time to be talking about grain reserves. We have had recent droughts. Reserves are depleted. We have a farm bill coming up. We have a trade negotiation going on. Grain reserves fit into all of those situations.

I think there are three reasonably well accepted principles regarding grain reserves in the United States. First, there is a genuine acceptance of continuing our policy of maintaining substantial stocks and agricultural commodities in view of our role in export trade, our general quest for stabilization, and the need for food aid.

Second, I think there is also general acceptance of the idea that we should continue to earmark a certain portion of our wheat and feed grain stocks as reserves to be held back, to some extent, for use when special situations arise. We should do this irrespective of what other countries do in regard to reserves because it is in our interest.

Third, there is general agreement that we should encourage other countries to also adopt reserves and stock policies which would contribute to some of the same objectives that we have in respect to our reserves policies.

In the framework of these three ideas or principles, I suggest the following points: We should fine-tune our stocks and reserve supplies more carefully in the future than in recent years. Having nearly 2 billion bushels of wheat and nearly 5 billion bushels of

corn, as we had a few years ago, was unwise and wasteful. I think that the present provisions in the law for automatically increasing our acreage reduction programs for wheat and corn when stock levels reach 1 billion and 2 billion bushels of wheat and corn clearly need to be revised.

For wheat, I'd like to advance the idea of combining the Farmer-Owned Reserve and the Wheat Security Reserve with special provisions for making the Wheat Security Reserve more readily available. There is no need for the CCC to own the Wheat Security Reserve if we do continue it. Here is a place where we can test the resolve of the administration, for example, which continues to say that we ought to get the Government out of the market. Well, let's keep the Wheat Security Reserve the next 5 years back on the farm and see if we can make it work.

There is little need for special provisions to attract grain into the reserve when we begin rebuilding it. The fact that farmers like to store grain and earn the storage payments ought to be enough.

Provisions for removing grain from the Farmer-Owned Reserve now in the law need to be entirely rewritten. They are based on target prices. We should base them on recent average market prices, not on target prices.

Finally, on the international question, I think the most important point is that we should keep any international discussions and commitments very simple. If we get to talking about automatic rules for building and depleting reserves and particular levels of international reserves, it is lost. But if national governments can make offers to provide their own reserves programs, and if those national programs have a certain degree of symmetry and similarity, then I think we will make progress on international reserve agreements.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Schnittker appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you. I must tell you, I think your statements are real good and I agree with much of what you said. I think there are reasons for combining the reserves, making them function more as food reserves less controlled by the Federal Government. I think they are very interesting ideas.

Mr. Sykes, it is a pleasure to have you here.

STATEMENT OF CHARLES L. SYKES, ASSISTANT EXECUTIVE DIRECTOR, CARE

Mr. SYKES. Thank you very much, Mr. Chairman.

I'll try to summarize my statement very quickly. I think you have it already.

For all the reasons that Mr. Schnittker has just given, we certainly endorse the committee's calling of this hearing and review at this time of the question of reserves.

With the Food Security Wheat Reserve Act of 1980 scheduled to expire in September of next year, we do think the public debate and discussion of this important and complex subject at this time is, indeed, important.

To summarize, it is clear that Congress has had a long interest in the question of an international wheat reserve or grain reserve, and that it has not proved to be an easy task to get other nations to sit down and discuss this issue.

But the basic question—indeed, challenge—is: Can the United States help put in place an international grain reserve system which is responsive to global food aid emergency needs, avoids harming U.S. and developing country farmers, and brings the international community a step closer to the kind of world we'd all like to see in the last decade of this 20th century? CARE would vigorously support a system which accomplished all these purposes.

Since the benefits and implications of a reserve are multifaceted, let me just briefly summarize those aspects of such a reserve where we have some experience—in other words, those implications that relate to effectively responding to emergency food situations in the world.

In the early post-war period, America's vast grain surpluses really constituted a de facto global reserve. For example, we were able to assist India to avert major famine in the late 1960's and to build up its own food security reserve stocks by 1971 to approximately 21 million metric tons.

But, due to crop failure in India in the 1972-73 crop years, that reserve was completely depleted by 1973. And you will recall that that was the same year in which we had the oil shock, devaluation of the dollar, and a skyrocketing of food prices.

I was in India at that time as the director of the Indian program, and the original \$33 million we had requested to meet the food aid needs of approximately 14 million beneficiaries—including landless laborers on works projects, schoolchildren, and preschoolchildren—suddenly that 33 million dollars' worth of commodities cost \$55 million. As a result, we had to drop 3 million of these recipients from the program, which translated basically into a net deficit of 350 calories per child and per worker, and for the children, approximately a 20-gram protein deficit—in other words, roughly one-third of their recommended daily allowance of protein. They were already at a deficit level.

Translated into human terms, it meant higher child mortality and morbidity levels and a sharp drop off in attendance in rural schools in India at that particular time.

Had there been a mechanism in place like the Wheat Security Reserve that we had in 1980, we could have responded to this tragic situation. I use India as an example because I was there, but around the world there were a large number of poor developing countries that suffered as a result of our inability to respond. Now, I think a reserve could have played an extremely important part in rectifying that situation.

One of the more important and fundamental questions raised by our supporters and friends in the U.S. agricultural community about an international grain reserve is its impact on prices. There are people here today vastly better qualified to respond to that concern; however, I believe that CARE can provide part of the answer, and that is to assure the family farmer and grain producers that the grain released through CARE for emergency purposes is going to reach people who desperately need it, but who really can't ex-

press demand on the market. In other words, they lie outside the marketplace. In other words, the recipients are in need of food but have no way of expressing it in classical economic terms.

Dr. Mellor of IFPRI, who was to be a copanelist, puts it very well when he says there are only two dignified ways for people to obtain food: They either grow it or earn it. I think that's an excellent point.

Our priority as an organization is to essentially help people grow their own food and to earn the income necessary to buy it. However, given the magnitude of the hunger problem at this point in time, it is essential, I think, that we look at a reserve to meet the short and medium term response. We see an increasingly large number of refugees who are in a deplorable state around the world. The United States has exercised leadership for a long time in this area. It is essential that we exercise leadership again.

The food aid projections and variability studies put out by IFPRI, the Economic Research Service of USDA, FAO, and the National Academy of Sciences clearly provide you with enough data to really clearly understand that there is going to continue to be a gap in the short and medium run.

We can be certain that emergency food aid needs will not disappear and, as a result, we would like to encourage this committee to take a look at the continued need for a reserve.

We'd also like to mention that we should be engaging other donor countries like Japan, even though they are not traditional grain exporters, in the food security area and in burden sharing. We have H. Con. Res. 91 offered by your colleague, Mr. Bereuter, which I think speaks to this point of involvement of Japan and other donors in helping in this area of food security.

Eventually we could even visualize the inclusion of developing countries which have grain reserves and grain reserve policies in terms of timely release. For example, in South Asia if we face such problems, the Government of India, under the Food Corporation of India, similar to our CCC, does hold stocks. If it meant an emergency release in that area, we could perhaps work out a system of releasing stocks in India and replacing them, thus ensuring that it got to the right people at the right time.

Finally, Mr. Chairman, we recognize that the Congress has been hard at work on looking at this issue, and we would endorse renewed attempts to look at the establishment of an international grain reserve. Barring that, we would hope that the committee would reauthorize, in some form, a U.S. food security reserve.

We would also urge the committee to support a mechanism for early replenishment of the reserve and, most importantly, a timely release mechanism. I think we need to build this into our supply policy and management system.

We would hope that the reserve would only be tapped—I know this concern was expressed by Mr. Roberts—for the purpose for which it was set up.

I will be glad to try to answer any questions.

[The prepared statement of Mr. Sykes appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you for your testimony.

What I'm going to do in order to expedite this is ask the other two witnesses to come up here and give their testimony so that we can—you all stay here. We would ask Dr. Meyers of Iowa State and Dr. Helmberger of the University of Wisconsin to come up. That way, if you all can do yours in 5 minutes, then we will have 15 minutes for questions.

I might say, Mr. Sykes, we appreciate your testimony and the work of CARE historically and what you've done to help feed people, and also your personal experience in being out there on the line—not just being a bureaucrat here. There's nothing wrong with being a bureaucrat, but you have seen the starving people and you have fed them. For that, you have a special observation that a lot of us don't have.

I know that my colleague, Mr. Emerson probably has more than any other existing colleague. He and Mr. Leland were out there seeing folks struggle and what it is like not to have food in your stomach.

So let's go ahead.

Dr. Meyers, we are privileged to have you from the great State of Iowa. There was a member of this committee from Iowa. I can't remember his name. Nagle, right? Are you from Iowa? [Laughter.]

In any event, he does very well here.

Mr. NAGLE. Dr. Meyers, if you would, go real slow. Mr. Glickman is from Kansas. [Laughter.]

Mr. GLICKMAN. Thank you very much.

Dr. Meyers, you may proceed. Your entire written statement will appear in the record.

**STATEMENT OF WILLIAM H. MEYERS, PROFESSOR, ECONOMICS,
ASSOCIATE DIRECTOR, CENTER FOR AGRICULTURE AND
RURAL DEVELOPMENT, IOWA STATE UNIVERSITY**

Mr. MEYERS. Thank you, Mr. Chairman.

For several years following the establishment of the Farmer-Owned Reserve in 1977, we had a stocks policy that was implemented through the FOR program. In the early 1980's, this program began to deteriorate and eventually lost its viability as a balanced grain reserve. I think the principal reasons for this are two: One, the price ranges for the reserve were increased very rapidly in 1980 to 1982; and, two, we had a very weak acreage control program during the early 1980's.

Since then there have been a series of Band-Aids applied to the program, but I believe the 1990 legislation provides an opportunity to reformulate the policy and develop an improved instrument for this policy.

In general, the justification for Government-supported grain reserves derives from the concept of market failure; that is: Does the private market, on its own, carry sufficient stocks to meet the policy objectives of society, or does it not?

One experience that we have recently had when the Government disposed of all reserve stocks in the early 1970's turned out to be a painful one. Recently, we have also been through a period of excesses in the other direction. These two extreme experiences should persuade us to design a grain reserves policy that has modest ambi-

tions, and programs that are flexible in the face of changing market conditions and inflexible in response to political pressures.

I am not prepared to advocate a specific proposal, but I would like to make four points regarding some options and guidelines.

First, when we have a substantial acreage reserve, the size of the grain reserve need not be as large. If stocks are drawn down due to low yields in one year, acreage can be returned to production to increase supplies the next. If acreage reserves are low or nonexistent, the grain reserve would need to be larger since it could not be replenished as quickly.

Second, the Farmer-Owned Reserve program needs to be overhauled or replaced. This program or its successor should be focused on the objective of maintaining the reliability of the United States as an export supplier. Its size should be related to potential weather shocks in the United States and probably also to potential weather-induced shocks in export demand.

Third, the FOR or its successor should have provisions that are as simple as possible, flexible in the face of changing market conditions, and inflexible in response to political pressures. The most simple scheme would be an extended loan program with a storage subsidy. This would keep the level of Government-owned grain low by reducing forfeitures, while increasing the level of private stocks at any given price.

It may be necessary to also have a trigger price at some percentage above the loan rate or moving average of market prices at which the storage subsidy is discontinued. There may or may not need to be a limit on the farmers' ability to release the grain at any price as they wish.

This type of program would also have some effect on providing a degree of increased market price stability, but a specific price range need not be prescribed.

Fourth, the emergency food security reserve could be owned and administered by the Government through the CCC separate from the Farmer-Owned Reserve. Since this could be designed to provide supplies in times of severe shortage, the minimum price for the release of these stocks should be above the trigger price for the Farmer-Owned Reserve, or when storage subsidies are terminated.

These are somewhat general principles and suggestions. The main thrust of them is to avoid the two extremes of no reserves and excessive reserves by following cautious and simple rules in the design and implementation of these programs.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Meyers appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you for that excellent statement.

Now our last witness is Dr. Helmberger. It is a pleasure to have you.

STATEMENT OF PETER G. HELMBERGER, PROFESSOR, AGRICULTURAL ECONOMICS, UNIVERSITY OF WISCONSIN-MADISON

Mr. HELMBERGER. I appreciate the opportunity to be here.

We have completed a research project at the University of Wisconsin that centers on the economic implications of alternative

farm market stabilization programs. Two of the programs will be of some interest to the committee.

The first is a Government-run buffer stock program similar to the price support programs with which we are all familiar. In this program, the Government stands willing to buy at a support price and to sell any stock in its possession if the market price rises to or above a release level. In our research, the release level was set at 120 percent of the price support level.

The second approach involves subsidizing the carrying of private stocks with few constraints on private decisionmaking. Farmers—and perhaps other storers—receive payments to cover the cost of storage. Low-cost credit is extended for holding stocks. In return for these benefits, farmers agree to hold specified stocks for at least 1 year.

Competition in the storage market lowers the difference between the expected price and the current price, making that difference equal to the effective carrying charge that farmers pay. So if the carrying of stocks is subsidized, the real carrying charge that farmers pay is diminished and, as a consequence, farmers—and other storers, too, if they were included in the program—would increase, on average, the stocks that they carry from one crop year to the next, which would tend to stabilize price.

In analyzing these programs, we were quite surprised to discover that the latter program is the more cost-effective; that is to say, for a given Government expenditure, a program that simply subsidizes private storage—but allows farmers great leeway in terms of deciding when to market and when to store—turned out to be more effective than did the buffer stock in stabilizing price.

Also, I will just note here that I think a further advantage of a storage subsidy program—as opposed to the usual kind of Government-run buffer stock program—is that it obviates the need for the Government to change through time support prices and release levels. In the case of buffer stocks, these need to be changed through time as economic circumstances change. But if the Government is merely subsidizing the private carrying of stocks, then the market mechanism, itself, has the opportunity of judging future demand and supply conditions and whether it is economical to keep a commodity in stock or to sell it.

One final note on our research—and this, too, came as a surprise to us—we find that buffer stock programs, storage subsidy programs, and other programs that stabilize price tend to destabilize total revenue to farmers and to destabilize farm income.

Thank you very much.

[The prepared statement of Mr. Helmberger appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you.

I thank both of the last two witnesses for the clarity and brevity of your statements.

Just a quick question to Dr. Schnittker. In your statement you make a suggestion. I'm not sure that this whole panel is necessarily inconsistent with each other, but you indicate that you think that we ought to combine the Farmer-Owned Reserve and the Wheat Security Reserve into one. There is no need for the CCC to own the Wheat Reserve, as you said, so we would test the Secre-

tary of Agriculture about his desire to get out of the market place of controlling the reserve.

I presume that there is some degree of compatibility between your position and Dr. Helmberger's position and Dr. Meyers' position. Dr. Meyers' made the last statement in his testimony that he said that the main thrust is to avoid the two extremes of no reserves and excessive reserves by following cautious and simple rules in design and implementation. Dr. Helmberger said, "To the extent possible, the reserves ought to be privately held, not some arbitrary mandated Government setting of stocks or arbitrary numbers." Dr. Schnittker, in your statement you do have some numbers there and some triggering mechanisms, although they are more flexible than what has been in the law in the past.

Do you sense some coming together of the positions of all three of you bright, intellectual persons who know everything about agriculture and came up here to tell us today?

Mr. SCHNITTKER. Thank you, Mr. Chairman. Yes, there is a good deal of compatibility here—perhaps slightly different techniques. In my statement I referred not to fixed reserve levels, but some targets with respect to total stocks. And then, in the framework of a certain amount of stocks, you would try to earmark some of those stocks that you would hold on to a little more closely. And, of course, the Farmer-Owned Reserve has been held in private hands with some storage subsidies, as Peter Helmberger said.

Mr. GLICKMAN. Second, I think we have something here that we could begin to develop in terms of designing a reserve policy that is meaningful, but flexible, and substantially in the private sector. I think Mr. Sykes makes a point, however, that whatever we do, there needs to be a quick response time. And, of course, Mr. Avery, you talk about that as one of the major problems. The response time is really more serious than maybe the question of how much we have. That is something else that we will have to figure out what to do. When you have a reserve program that is substantially in private hands, it may create some challenges in terms of providing that kind of quick response time. But I think we can probably do it.

Mr. Avery, you talked about this a little bit in your testimony. Mr. Lester Brown, as you know, has, for years, been warning of global catastrophe. In the Washington Post this morning you are kind of, in a sense, pitted against him. I'm the great arbitrator. But people are concerned about these environmental issues. They are worried about reforestation, ozone, what it will do to crop production, and whether we're going to turn the Great Plains into a vast desert where we won't be able to produce anything.

I suspect that, as usual with most things in this world, the extremists tend to fall out and balanced folks tend to come up with something in the middle. But where are we? Where should we go, as Members of Congress, in trying to determine what the state of the world is in terms of ecological and environmental problems? How serious are we?

I would like to say that Mr. Brown is off the wall, but I also know that there is some evidence of environmental degradation in the world, and it may have some impact in the crop area, and I don't want to end up 50 years from now saying we could have done

something about this and we didn't. So where would you suggest we go?

Mr. AVERY. I think your original point about being in the moderate middle is the safer ground. We have two kinds of environmental problems, I think, Mr. Chairman, that are resulting in agricultural degradation. One is where we have overstimulated the use of purchased inputs, if you will. The Western European countries, in particular, are suffering some very serious environmental side effects from the very intensive development of livestock industries and the very much more intensive use of chemicals on their farms than we have used. We have some of those problems. But, at the same time, we are actually diverting from production of a very considerable amount of land which could be used in lieu of some of those purchased inputs. We could deescalate the intensity of our farming and perhaps even cut some of our farmers' production costs by using our land more extensively and somewhat less chemicals—not making the two artificial categories out of land.

And then we have some very serious environmental problems in some of the marginal agricultural areas of the world in places like the Sahel, the highlands of Nepal, the island of Madagascar. And, to a very significant degree, those problems are the result of not using modern agricultural technologies—particularly higher-yielding seeds—to produce more food on the non-marginal areas.

Using your best land to its fullest technical ability safeguards the fragile acres.

Mr. GLICKMAN. So maybe one of the challenges to us is to not only talk about a reserve of food, but maybe restimulate some of the things that we had done historically where we provide technical assistance to people to get them to do what they ought to be doing.

Mr. AVERY. Well, with all due respect, the United States is still one of the major contributors to the international agricultural research system which is functioning very importantly on both of those fronts.

The International Center in Nigeria, for example, has proven out the alley cropping technique—interspersing rows of trees with rows of crops. It is the first replacement for bush fallow—the first cost-effective replacement—ever available to much of Western Africa's agriculture.

There is not much extension effort. It is only gradually filtering out amongst the farmers. But this is a very important environmental protection development, and it came out of this internationally supported research system.

Mr. GLICKMAN. And yet, when we try to deal with some problems like burning of the forests in Brazil, there is a lot of hostility toward the United States in that the word has said, "Do as we say, not as we do." Here you are. You over-plant—this is at least the terminology that is often used, maybe—"You don't take care of your soil very well and you're coming down here and telling us what to do, when we have such serious economic conditions?"

What I'm saying is that you may have a scientific gap of information, but you also have some political considerations which make it difficult to do it.

In sum, what you're saying is that we're not facing the end of the human species, as we have known it for several thousand years.

Mr. AVERY. It may be more comfortable to have a smaller population growth than we project will happen. That's probably not our choice. And the fact is: We almost certainly will be able to feed that expanded population at least as well as we are feeding the current population and, I would hope, better.

Mr. GLICKMAN. Thank you.

Mr. Emerson.

Mr. EMERSON. No questions, Mr. Chairman.

Thank you all for your informative testimony, and, in particular, Mr. Avery's very positive statement. There is a happy note to conclude on, although I don't want to preempt anyone else. Thank you all very much.

Mr. GLICKMAN. Mr. Nagle.

Mr. NAGLE. Thank you, Mr. Chairman. I don't have any questions. I enjoyed the testimony, though. Dr. Meyers, I congratulate you in making your statement so simple that even someone from Kansas could comprehend it. [Laughter.]

Mr. GLICKMAN. Mr. Sarpalius.

Mr. SARPALIUS. Thank you, Mr. Chairman. I enjoyed the testimony, too, but I'm curious if any of you can respond as to what you foresee the impact of genetic engineering on developing crops that are disease resistant, drought resistant, and insect resistant—crops that can be grown in parts of the world today that are suffering severe drought problems. What do you see in the future through genetic engineering on some of these crops?

Mr. AVERY. Well, I think a good deal of progress is already showing up in the scientific record, Mr. Congressman. I note, for example, that some USDA scientists have recently isolated a gene in pearl millet that gives a 25-percent increase in production under drought conditions. And pearl millet is one of the major food crops in some of the most drought-prone regions of Africa. It is a little early to know what the ability to isolate that gene and the ability to move that gene from one plant to another is going to produce on the ground, but I think it is unquestionably a very important advance in our knowledge, and these kinds of advances are taking place. I have no doubt that they are, in the longer term, going to produce very important gains.

Mr. SCHNITTKER. Could I add one point? I think developments in oilseed—particularly rape seed—which have improved the quality of the meal, the quality of the oil, and the yield of the crop will prove to be very important in a number of countries and, of course, may also be threatening to other oilseeds like soybeans.

Mr. SARPALIUS. Thank you.

Mr. GLICKMAN. Thank you. Let me say that this panel has been particularly useful to us. We had a little bit of controversy at the beginning of this hearing about the whole subject of reserves, but I must tell you that I am convinced that we have to examine them and improve on what we've got as a part of the 1990 farm bill. No longer can we exist in terms of U.S. farm policy exclusively on the domestic side of the picture. But we have to do it sensibly and responsibly and, as much as possible, do it without the Commodity

Credit Corporation dominating it. I, for one, have been very concerned about their role in determining supply and price in the domestic and international market place because it is subject to such abuse—such potential for abuse.

So this panel has given us some very useful ideas. Obviously, the end goal is not only to produce enough food for ourselves, but help keep the rest of the world reasonable well fed, as well.

We will hold another hearing in mid-October. At that point, we hope to get the Department in here with some thoughts on this thing.

The goal is to try to come up with a reserve part of the 1990 farm bill that reflects a lot of what you're talking about here. So we will be working with all of you in terms of what it ought to look like. We appreciate your advice here. Thank you for coming today.

The hearing is adjourned.

[Whereupon, at 12 noon, the subcommittee was adjourned, to reconvene at the call of the Chair.]

[Material submitted for inclusion in the record follows:]

GLOBAL OUTLOOK FOR WHEAT, SOYBEANS AND FEEDGRAINS

Summary of the Testimony of the Food and Agriculture Organization (FAO) before the U.S. House of Representatives' Sub-Committee on Wheat, Soybeans and Feed Grains, 26 September 1989

Mr. Chairman,

Thankyou for the opportunity to present FAO's views on the global outlook for wheat, soybeans and feedgrains and the implications for the world food outlook. My name is Richard Hancock, and I am Chief of the Basic Foods Service in FAO's Commodities and Trade Division. With your permission I would summarize the testimony and request that the full document be inserted in the record of the hearings.

Mr. Chairman,

I would like to start by taking a brief glance backwards before going on to the outlook for the next few years. New challenges will undoubtedly arise. But there are also unresolved problems arising from past developments which still demand careful attention.

FAO has been undertaking a number of studies in recent years which cast light on these trends and examine world food prospects. Most recently we have completed a major study 'Agriculture Toward 2000' which I shall draw upon heavily in this testimony.

Looking back over the past quarter of a century it is clear that agriculture has made considerable progress. The world as a whole is better fed today than at the beginning of the sixties. Technology has succeeded in raising productivity. Between 1970 and the mid-eighties rice yields in the developing countries rose by over 40 percent and wheat yields by over 75 percent. Production growth in these countries averaged 3 percent a year. World food trade expanded rapidly and agriculture forged closer links with the rest of the economy.

Yet the progress achieved has not been shared by all countries or continents. Nor has it eliminated hunger and malnutrition. Per caput agricultural production in sub-Saharan Africa fell by nearly one percent a year in the past quarter century. According to FAO's Fifth World Food Survey there are between 350 and 510 million people undernourished in the developing countries. Other problem areas concern protectionism, massive external debts, environmental damage and the instability of food supplies and prices.

The current situation which is continuously monitored by FAO's Global Information and Early Warning System in our monthly "Food Outlook" bulletin, illustrates the instability problem very well. The large supplies on world cereal markets in 1986/87 and 1987/88 gave rise to cut-throat competition among

exporters and the lowest real prices since the thirties. However, a combination of bad weather and policy induced cut-backs led to a fall in world cereal production to below consumption in both 1988/89 and in the current year. Stocks of cereals are forecast to fall by the end of 1989/90 seasons to or even a fraction under the minimum that FAO estimates is required to safeguard world food security. The current low level of stocks - particularly of wheat - means that relatively large production will be required in 1990 and perhaps beyond to rebuild a more adequate level of world stocks. By contrast, the current tight situation for oilseeds looks as though it may ease somewhat in 1989/90.

The relatively tight situation in these markets (cereals and oilseeds) in the past year or so should, according to our assessment of the longer term, be followed by a period when global agricultural production will rebound and the increase is more likely to be constrained by an insufficient growth in effective demand.

Our assessment assumes that the developing countries will be able to improve their average food intake through a steady growth in domestic production and only rather limited increases in imports. We are not, however, so sanguine about undernourishment: indeed widespread hunger is expected to persist and

even grow worse in terms of the numbers of hungry people. Particularly at risk is sub-Saharan Africa. Foreign exchange scarcities stemming from the huge overhang of external debt and weak market prospects for some of their main export commodities will continue to constrain their food imports on commercial terms so that food aid will continue to have to play an important role in meeting food deficits.

As we assume some response to policy reforms in the European Centrally Planned economies, our main scenario is for no growth in their net imports of cereals.

As a result the net import demand for cereals that will need to be met by the developed market economies (North America, Western Europe, Japan, Australia, etc.) is expected to show only modest growth. As the domestic requirements for cereals are also growing only slowly in this group of countries, its trend rate of growth of cereal production would, we estimate, have to decline from well over 2 percent a year to approximately 0.9 percent a year in the nineties - once, that is, output has recovered from its recent shortfalls. For oilseeds, oils and oilmeals we consider it likely that the developed market economies would become net exporters by the year 2000 instead of net importers. In a nutshell, once weather conditions return to normal, the underlying trends will reassert

themselves, world markets for cereals will grow slowly and the supply/demand situation should be relatively easy. The capacity to produce cereals in the developed market economy countries will tend to exceed demand and pressure for adjustment will persist.

This Mr. Chairman is our central scenario but it is built on a number of key assumptions about developments - technical, political and economic. Therefore I should like now to refer briefly to some of the major uncertainties in the outlook. First, concerning technology and investment, it is our view that productivity gains will continue to be the driving force in world agriculture in the future. For the developing countries, there is a pipeline of research results ready to be adopted and prospects for technological advances are good, provided effective extension services are in place and policy and economic incentives exist. Our main fear is that economic stringency will put a brake on implementation and on the scale of investment in developing countries' agriculture. The slowdown in growth of staple food production in China since 1985 and the deceleration of yield improvements in recent years in Africa and Latin America are worrying signs that all is not well.

Second, regarding the environment we do see significant strains, particularly in the developing countries, where large increases in production will be

needed. In broad terms, the main environmental problems of developing countries will be: Asia, from increased irrigation and deforestation; Near East/North Africa, from shortage of arable land and increased desertification; Sub-Saharan Africa, from livestock to crop pressures on fragile soils; and Latin America, from deforestation and increased monoculture. By contrast, the slowdown in growth rates in the developed countries could be an excellent opportunity to adopt policies more sensitive to environmental needs.

Specifically regarding oilseeds, overall the sector has been slowing down since the rapid growth in the seventies. However, the pattern of demand growth has favoured oilseeds with a higher oil content, such as those from oil palms and coconut palms, crops for which the development of high-yielding varieties has been successful - more successful than in the annual crops. Advances in research in the annual oilseeds will be needed especially if many developing countries are to meet their rising requirements.

Fourthly, our projections suggest a slowing down in the growth of demand for such concentrate feeds as cereals and oilmeals, particularly in the developed countries where the bulk is consumed. However the projections are based on the assumption that the amount of feed used per unit of livestock will stabilize. Yet there are indications that productivity in this sector

will continue, a factor that would erode further growth in the demand for feed. It is possible, though, that the feed demand for oilmeals in the European centrally planned economies could be greater than forecast given the widely held belief that feed productivity in these countries could be increased by raising the protein content of feed rations.

Macro-economic developments can and do disrupt agriculture. Policies that favoured other sectors are being changed in many developing countries under their structural reform policies. But these policies can be blown of course by external developments such as depressed commodity prices, protectionism, and rising external debt. Indeed, despite some recent progress in re-scheduling, external debt could still bring about a major upheaval in the world economic system and hence in agriculture.

Another major area of uncertainty for the next few years is the policy reform process being undertaken in the European centrally planned economies. Agricultural reform is part and parcel of more general economic change which aims at relaxing some of the rigidities of central planning and allowing more scope for decentralized decision-making including greater use of economic incentives and market signals. Given the increasing links between agriculture and the rest of the economy, the success of agricultural reform will

hinge on changes being made in the economy as a whole. If the reforms are not successful then the cereal deficits of these countries could increase further.

Perhaps the most important area of uncertainty facing world agriculture in the next few years concerns the reform of agricultural support policies and trade liberalization. The outcome of the Uruguay Round will be crucial. If it fails we can expect an agricultural system in disarray as it was most conspicuously in 1986 and 1987. If, as is to be hoped, the Round is successful and it meets its objective of "establishing a fair and market-oriented agricultural trading system" and there are "substantial and progressive reductions in agricultural support and protection", then a number of consequences are to be expected. The results would depend on the number of countries liberalizing, the commodity coverage and the extent of the liberalization. Under certain assumptions, liberalization of the industrialized countries' agricultural policies would raise world market prices, lower world price instability and stimulate world trade.

This improved international market performance could lead to better incomes for producers, increase foreign exchange earnings, reduce the magnitude of sharp price shocks for consumers, and could improve efficiency in the use of resources.

FAO's analysis concluded that the benefits to developing countries from liberalization in industrialized countries' agricultural policies would accrue mainly to substantial exporters of the commodities concerned. However, some developing countries would incur losses. This highlights the need for multi-commodity and multi-sector trade liberalization, extending to all products of export interest to developing countries and not limited to temperate-zone agricultural products alone, to enable developing countries as a whole to obtain increases in export revenues which would more than compensate for such losses. Other positive effects for developing countries, following an across-the-board liberalization in industrialized countries' policies, relate to increases in their overall level of real incomes, improvement in their terms of trade and considerable gains in rural incomes, thus contributing toward food security goals.

Trade liberalization could therefore make an important contribution to what is by far the most important issue in achieving food security - ensuring that developing countries achieve adequate increases in their domestic production of cereals and other basic foods. The primary responsibility for this must lie with developing countries themselves and will only be achieved if suitable priority is given to agriculture and rural development. The international community

will also need to help by providing technical and financial assistance. But it is only by unlocking the vast potential for agricultural production increase, economic growth and increased income in developing countries that the poverty can be overcome and the purchasing power of developing countries be enhanced.

Finally, Mr. Chairman, some other important issues concerning food security could begin to emerge in the move towards free trade in agriculture. The first concerns the role of food aid in the process of liberalization. While food aid will remain a relatively minor factor - the gains from freer trade being of much greater importance - food aid requirements will remain significant, especially for humanitarian purposes including emergency situations. Traditionally a significant part of food aid supplies has been due to the existence of surplus stocks built up in price support activities. Moreover, a large share of food aid is fixed in value terms, the volume of which varies inversely with the level of prices. A rundown of price support combined with higher world prices for cereals following liberalization could, therefore, put downward pressure on the availability of food aid. Yet food requirements arising out of emergencies must be met irrespective of the system put in place to govern the functioning of world markets.

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The second issue concerns the overall level of stocks of cereals. Presumably a "substantial reduction in support" would mean a much lower level of government held stocks and, possibly, a higher level of privately owned stocks, the total probably being smaller. Yet the variability of world supplies is likely to remain considerable. The weather will continue to cause large production fluctuations whatever the policy regime. Moreover a move to free trade will expose many farmers to more variable prices which could destabilize output in their countries. Whether the world under freer trade would be holding an adequate level of stocks is hard to gauge. It is a subject on which more research is needed and it is important not to come to hasty conclusions on this difficult issue. It would however seem plausible to suppose that the world would face an increased risk that, following liberalization, and in the absence of any international understanding on reserves, the global volume of stocks could, especially in years of below-average production conditions, fall short of the minimum required to safeguard world food security - an amount that is currently estimated by FAO to be equal to at least 17-18 percent of global consumption needs. In this case the establishment of an internationally coordinated system of nationally held reserve stocks would have to be placed at the top of the world's agricultural policy agenda.

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The goal of eradicating hunger and malnutrition is surely accepted as a common responsibility of mankind. According to the food security concept adopted by FAO's Committee on World Food Security, the ultimate objective of world food security is to ensure that all people at all times are in a position to produce or procure the basic food they need. As mentioned above, prime responsibility for achieving food security must lie with the countries themselves through stimulating food and agricultural production, rural development and economic growth. While many other things are needed to achieve access to food - such as ability to import, availability of cash income, provision of adequate international support - the question of reserve stocks and their role in providing reasonable stability of supply is also one which needs to be attended to. In FAO's view, the international co-ordination of national stocks, coupled with assistance to developing countries to build and maintain their stocks could provide a basis for reaching an international understanding. FAO is continuing its work in this field and wholeheartedly welcomes this Sub-Committee's decision to investigate the key issue of grain reserves.

Thank you Mr. Chairman.

(Attachment follows:)



HANCOCK

GLOBAL OUTLOOK FOR WHEAT, SOYBEANS AND FEEDGRAINS

Testimony of the Food and Agriculture Organization (FAO) before the
U.S. House of Representatives' Sub-Committee on Wheat, Soybeans
and Feed Grains, 26 September 1989

Contents

1. Review of past trends, current situation and short-term outlook.
2. Longer-term outlook.
3. Main issues and areas of uncertainty in the longer-term outlook.

1. REVIEW OF PAST TRENDS, CURRENT SITUATION AND SHORT-TERM OUTLOOK

Past trends

In an assessment of the likely evolution of the world food system, a glance backwards in time has its value. Since the early sixties the outstanding development in food and agriculture has been the significant improvement on average in the levels of food consumption. Earlier fears of chronic food shortages over much of the world proved to be unfounded. However in many areas and for many groups of people hunger and malnutrition are rife. According to FAO's Fifth World Food Survey, between 350 and 510 million people are still seriously undernourished.

The key factor that enabled the world's expanding population to be better fed was the transformation of agriculture, first in the developed market economies but increasingly in the developing countries, particularly following the Green Revolution. Rice yields rose by 41 percent in developing countries between 1969-71 and the mid-eighties, wheat by 77 percent. Labour productivity in these countries rose by half, although it is still only a fraction of the levels achieved in developed countries. Yet, here too the record was patchy. Production growth in the developing countries averaged around 3 percent a year in 1961-85 although in Sub-Saharan Africa the situation was much worse. Sluggish growth in this area during the sixties worsened in the seventies and, aggravated by droughts, became a full-scale crisis in the early eighties.

At the same time the world food system came to rely increasingly on trade. In the early sixties world trade was 8 percent of production but had grown to 12 percent by the mid-eighties. For cereals the picture is more complex. During the sixties trade expanded steadily from 87 million tons in the early sixties to 110 million tons by the end of the decade. But during the seventies trade in cereals boomed, reaching 214 million tons by 1981/82. Since then it has stagnated, even declined. Our latest forecast for 1989/90 for instance is 204 million tons. Recent years have seen the widespread use of export subsidies by developed countries - not limited to cereals - which have caused damage and deep concern to developing countries with a comparative advantage in the production and export of the products concerned.

Another important development was the greater integration of agriculture with the rest of the economy. A rising share of output was marketed, more off-farm inputs were purchased, institutional credit was increasingly used and more off-farm income was earned by agricultural households. These increased links with the monetary economy and rising share of output traded internationally made the agricultural sector more open to external economic developments. As a consequence, international economic conditions have come to play an increasingly important role in agriculture. Fluctuating exchange rates, commodity price instability, soaring external debt and rising real rates of interest affected food supplies and agricultural development.

Food security became a leading issue, especially in the wake of the world food crisis in early seventies. The World Food Conference sought to abolish hunger and malnutrition by both national and international measures. The need to increase food production in the developing countries was stressed. Greater external assistance was to be mobilized and a minimum 10 million tons annual food aid target was set. The need for internationally coordinated stock policies was widely felt, although in practice attempts to negotiate an International Grains Agreement with economic provisions (on stocks and/or prices) failed.

A major outcome of these trends and resulting pressures has been that many countries have changed their agricultural policies. In developing countries up to quite recently emphasis had been given to industrialization. Food security concerns fuelled by the world food crisis in the early seventies and the balance of payments problems and debt crisis of the eighties have led to policy reforms which recognize the pivotal role of agriculture in the economy. Developed market economies too are being forced into policy reform in order to solve problems of subsidized production growing in excess of demand. Policy change in the centrally planned economies is taking the form of some relaxation of central direction and more exposure to market forces.

The overall assessment of the past 25-30 years is positive. A significant improvement in food supplies and the extension to all parts of the world of more productive farming systems are the two main pillars of this achievement. Nevertheless, a number of serious problems remain unsolved: access of the very poor to food; the problem of protectionism; the instability of supplies and prices; the problem of domestic food production lagging behind demand growth in many low-income food-deficit countries, especially in Africa; and the question of environmental damage as the pressure of rising demand on scarce natural resources rises.

Current situation and outlook

Many of these longer-term trends find their echo in the current situation. Regarding cereals, there has been a sharp turnaround in the past two years. The large supplies on world markets in 1986 and 1987 had led to the lowest level of cereal prices in real terms since the thirties. Declining world market outlets and mounting stocks caused trade tensions among the exporting countries. Since mid-1987, however, the situation has changed. A combination of policy-induced production cutbacks and bad weather caused a fall in world production to below consumption in 1987/88 and 1988/89. Carryover stocks were drawn down heavily and grain prices rose strongly.

The close balance between supply and demand looks as though it will continue in 1989/90 even though world cereal production in 1989 is expected to recover from the drought-reduced level of the previous year. FAO's latest forecast indicates that production this year would be about 1860 million tons, some 6 percent above the 1988 harvest. The bulk of the increase would be concentrated in the developed countries whose cereal output is expected to be 13 percent above its 1988 level. The increase is, however, significantly less than expected earlier in the year as adverse weather conditions in recent months have affected crops in a number of countries such as Canada, the United States and the USSR. In the developing countries, production in 1989 is expected to slightly exceed last year's record harvest. The increase in production is largely the result of good crops in a number of major Asian countries; in South America, production in 1989 is expected to be below its 1988 level, while in Africa no rise in aggregate production is forecast in spite of a bumper crop in South Africa, the region's largest producer of cereals. The current forecasts for the 1989 season are still tentative and developments in weather could affect the final outturn. Although a number of crops have already been harvested (i.e. winter and spring grains in the northern hemisphere and rice and coarse grains in the southern hemisphere), important crops such as the main rice and coarse grains in Asia are still in the critical development phases.

The forecast increase in world cereal production, even if it materializes, would not be sufficient to restore consumption to its trend level and replenish depleted cereal stocks. World supplies of cereals in 1989/90 are expected to rise only marginally above the level of 1988/89 reflecting low opening stocks. Supplies are expected to be especially tight among the major cereal exporting countries; this is particularly the case for wheat and coarse grains where exporter supplies in 1989/90 are likely to fall even below their already low 1988/89 level and significantly below their levels in 1987/88. Stagnation of world cereal supplies would limit the growth in aggregate utilization. FAO's forecasts indicate an increase of 30 million tons or less than 2 percent above utilization in 1988/89. Despite this increase, overall utilization in 1989/90 would continue to be below its long-term trend level for the second year in succession. However, even at its below trend level, utilization in 1989/90 would exceed production and world cereal stocks are expected to fall for the third year in a row. The decline mostly reflects reduced stocks of wheat and coarse grains, especially among the major exporters. Most of the increase in utilization in 1989/90 would be accounted for by higher food consumption, particularly in those developing countries of Asia and Africa where harvests in 1989 should be good. In Latin America, where cereal production is forecast to fall, food consumption is expected to decline.

Global cereal stocks at the end of the 1989/90 season are forecast at 290 million tons which is just below the 17 to 18 percent range which FAO considers the minimum necessary to safeguard world food security. The situation is critical for wheat: the stocks of wheat held by the major exporting countries are projected to fall to their lowest level since the world food crisis.

The tight supply/demand situation for cereals expected to prevail over the 1989/90 season suggests that a return to normal consumption levels and a replenishment of stocks will have to be postponed for at least another year. Moreover, even a minor reduction in current production or a sudden surge in import demand could have a disproportionate effect on international market prices. In order to replenish depleted stocks to

levels which will ensure world food security, and to restore consumption to more normal levels, an increase in world production is necessary. The extent to which this does occur depends primarily on policies followed in the major producing countries, although the weather will also play a critical role.

A disturbing feature of the situation is that food aid in cereals during 1989/90 is forecast to fall to about 8.3 million tons. This would be about 1.5 million tons below estimated shipments in 1988/89 and the lowest level since the mid-1970s. Moreover, food aid would for the second consecutive year fall below the minimum annual target of 10 million tons established by the World Food Conference in 1974. The reduction in food aid to be provided in the current season mainly reflects lower expected shipments from Canada and the United States. Reduced food aid availabilities could have serious implications for many recipient countries, especially in the low-income food-deficit countries. The ability of these countries to meet import requirements is already severely constrained by structural adjustment, balance of payment problems and relatively strong international prices. The forecast decline in food aid shipments to these countries, from 8.1 million tons in 1988/89 to 7 million tons in 1989/90 could aggravate structural problems of hunger and malnutrition among vulnerable groups. This highlights the unfortunate fact that major quantities of food aid are set by budgetary limits rather than by humanitarian requirements.

Regarding oilseeds, the 1989/90 season, which is beginning now, is likely to mark a change from that of the previous season which saw a reduction in world production of oilseeds, a draw down in old crop stocks to meet demand, and higher prices of oilseeds, oils and, in particular, oilmeals. Output from new crops of both oils and oilmeals is expected to recover in 1989/90 to a new record mainly on account of soybeans, which last season were badly hit by drought in the United States and Argentina. The current U.S. harvest is estimated to be some 20 percent bigger than last year's poor outturn while, in Argentina, the crop to be harvested early next year is expected to be sharply higher than the previous very poor harvest. Brazil, on the contrary, might harvest a somewhat smaller crop in early 1990. However, there will be other contributors to the growth in output. In particular, the oil palms and coconut palms of South-East Asia are likely to yield more, and the good monsoon in India suggests that - also aided by policy changes - this country is set for another increase in oilseed production above last year's record. While India's import requirements might thus remain small in 1989/90, some increase may come from China, where part of the growth in demand for vegetable oils might need to be met with imported supplies despite some recovery in this year's oilseed crops from last year's shortfall. Import requirements of both oils and oilmeals are likely to be bigger in the EEC - because of reduced domestic oilseed crops - and in the USSR, where the growth in demand continues to outstrip the growth in domestic production.

On present, very early indications, this season's output from new crops (of both oils and oilmeals) should be sufficient to meet foreseeable demand for consumption and to allow a modest addition to world carryover stocks; these have been drawn down in 1988/89 to a level which does not provide sufficient insurance against possible serious production shortfalls, and leaves the adequacy of supplies of both oils and oilmeals heavily dependent on this year's crops.

Thus, while the short-run outlook for cereals points to a delicate balance between supply and demand, with the consequent risk of relatively large price fluctuations, that of oilseeds, oils and oilmeals looks likely at this early stage to get somewhat easier.

2. LONGER-TERM OUTLOOK

Looking further ahead, our latest assessment contained in Agriculture: Toward 2000 (AT 2000), which was prepared in 1987, suggests that the 1990s could well be a period when, at the global level, the growth of agricultural production is likely to be constrained by insufficient growth in demand. However, the situation is likely to differ from region to region.

In the developing countries, the growth rate of demand for agricultural products is projected to decline over the period to the year 2000 from that seen in the past 15 years (3.0 percent a year rather than 3.7 percent a year) reflecting a lower population growth and an unfavourable economic and financial situation. However, overall nutritional levels are expected to improve. Between 1984-86 and 2000 the average calorie intake is projected to increase from 2460 calories a day to 2620 calories. But many low-income countries, particularly in Sub-Saharan Africa with very low food availabilities at present would probably make little progress, mainly because of unfavourable overall economic growth prospects and continued high growth of population. As a consequence, widespread hunger is expected to persist and even grow worse. Increasingly the global problem of under-nutrition would shift from the traditionally more affected region of Asia to sub-Saharan Africa.

Agricultural production growth in the developing countries between 1984-86 and the year 2000 is expected to slow down to 3.0 percent a year compared with 3.4 percent yearly in the previous 15 years. Because of a slight decline in the rate of growth of their population, per caput agricultural production in the developing countries is projected to rise by 1.1 percent per annum, the same as in the period since 1970. A slightly lower performance is envisaged for Asia and Latin America. However a recovery in sub-Saharan Africa would be possible, but only if appropriate policy reforms and priority to agriculture in resource allocation are implemented.

The cereal deficits of the developing countries which had risen three and a half times in the period 1970-1985 would continue to grow but at a much slower rate than in the past: from 70 million tons in 1983-85, around 93 million tons in the current year to 110 million tons by the year 2000. Foreign exchange scarcities stemming from the huge volume of external debts will continue to curb imports by many countries. Food aid will thus play an important role in meeting food deficits.

The picture that emerges from the AT 2000 study for the developing countries is one of continuing expansion of their agricultural sectors but with a number of black spots: - the unfavourable overall economic environment which will continue to constrain the growth of demand; the effects of protectionism on limiting export opportunities (see also below); the minimal improvement in the food situation in sub-Saharan Africa and no decrease in the number of undernourished people.

At the same time the developed countries will also expand production. Moderate progress is expected in output in the European centrally planned countries, which together with a relatively slow growth in food demand (reflecting high existing levels of consumption, a slow growth in population and continued diversification in the diet) would result in a better balance of production and demand. This projection is based on the assumption that the recent spate of policy reforms will begin to have an impact in the medium term (see also below). Regarding cereals, FAO is currently assuming that these countries will be able to raise the growth of output to 1.3 percent a year (from 0.7 percent annually 1971-86) and thus keep net cereal imports at slightly below current levels. This projection, however, presupposes some significant improvements in livestock sector productivity to economize on the feed use of cereals.

For the developed market economies as a whole the growth of food demand is expected to slow down from 1.2 percent a year in the 15 years up to 1986 to 0.8 percent a year in the period to the year 2000. The slowdown is due both to a lower population growth rate in future and to the limited scope for further increases in per caput consumption. The other major domestic outlet for agricultural products, animal feed, would also exhibit slower growth because of a decline in the expansion of the livestock industry, continued productivity increases in animal production and, possibly, a shift to more grass and roughage feeding. Prospects for the industrial use of surplus food commodities are not encouraging and non-food industrial use is projected to grow at roughly the same rate as in the past fifteen years (i.e. 1.1 percent a year). As the net import requirements of the rest of the world are also forecast to rise relatively slowly, the growth rate of total demand for agricultural products would be approximately halved over the period from the mid-eighties to the year 2000 compared with the previous 15 years, to just under one percent a year. This means that agricultural growth in the developed market economies will become progressively more demand-constrained - a development that is occurring at the same time as technical progress in agriculture continues to raise yields.

Regarding cereals in the developed market economies, the slowdown in livestock production is expected to curb the demand for cereals for feed, while demand for use as food is also expected to rise more slowly. Taking account of the projected future import demand for total cereals in developing countries (net imports 112 million tons) and the European centrally planned economies (net imports 30-40 million tons) as well as the slowdown in demand within developed market economies, their cereals production growth rate would need to be reduced from the 2.9 percent of the 1970s and the 2.3 percent during 1980-85 to a future rate of approximately 0.9 percent a year to avoid surpluses. This projected situation would, however, still require developed market economies' cereal production to be by the year 2000 some 100 million tons above the level of 1983/85.

In the case of oilseeds, oils and oilmeals, the projections indicate that if the trend of production continues, the developed market economies would become a significant net exporter of vegetable oils and oilseeds in place of 1983/85 net imports of just under one million tons (oil equivalent). If livestock production increases more slowly in the future, these countries would tend to become self-sufficient in oilcakes/meals rather than substantial net importers as at present. Two complicating factors are the possibility of switching some land from cereals into import substituting oilseeds to reduce cereal surpluses and the possibility of additional demand for imported oilmeals by the European centrally planned economies in the course of improving efficiency in feed use of cereals.

The above assessment of trends over the next decade was prepared in 1987 and early 1988. They were undertaken before the tightening of the market that gathered pace in 1988/89. However, FAO still feels that once weather conditions return to normal, the underlying trends analysed above will reassert themselves, world markets for cereals will grow slowly and the supply/demand situation should be relatively easy. The capacity to produce cereals in the developed market economies will tend to exceed effective demand, domestic and external taken together while for oilseeds competition for markets will intensify and not abate. Nonetheless, the problem of food insecurity will continue to prevail, and in some cases even worsen, in many low income food deficit countries, and particularly for the poorer strata of the population. At the same time, year to year volatility in food production and supplies due to the vagaries of nature will also continue.

Inevitably, however, generalized scenarios like the one sketched above are built on a number of key assumptions regarding developments and policies. Vary these assumptions and the scenario will change. Therefore, in the sections below some of these key assumptions and sources of uncertainty about the future are examined in greater detail.

3. MAIN ISSUES AND AREAS OF UNCERTAINTY IN THE LONGER-TERM OUTLOOK

Technology and investment

Technological change has been the driving force in world agriculture in the past and will continue to be so in the future even though rather new requirements will be made upon it to e.g. boost productivity in a way that lowers costs and does not harm the environment. Fortunately there is a substantial pipeline of research results to be adopted. At the same time the prospects for further technological advances are good. The genetic potential of foodcrops has not been exhausted and new opportunities are beginning to open up through advances in biotechnology. However these will need massive investments in adequate irrigation, improved soil management systems and cropping practices, the addition of nutrients to the soil and investment in applied research and on extension services. Moreover adequate economic incentives and a favourable policy environment are essential for the widespread adoption of improved technologies.

While the technological potential exists, the economic environment could prove to be a brake on its adequate exploitation, especially in the developing countries. Two main factors are likely to be at work. First the relatively slow growth in world agricultural trade and the probability that competition for markets will be strong could deter investments in traded agricultural products. Secondly the unfavourable macro-economic outlook for many countries will curb investment. Both these factors may however be changed as a result of the Multilateral Trade Negotiations at the GATT, especially the negotiations on agriculture (see below).

The overall result was assessed in "Agriculture Toward 2000" to be favourable in the developing countries. Yield increases are projected to account for the bulk of the gain in food crop output in the next decade. Yet, in many cases, these yield increases will not be easily obtained and regional and country-to-country variations will persist - the sharp slowdown in output of staple foods in China since 1985, the slower growth of yields in the eighties in Africa and Latin America compared with the seventies are noted. It can only be concluded that while the overall

general outlook looks reasonably good there are doubts and uncertainties concerning the adequacy of the growth of production in several developing countries, especially in Sub-Saharan Africa.

The environmental challenge

A related issue is the environmental challenge in agricultural development. The 60 percent increase in agricultural production in the developing countries and the 20 percent in the developed countries projected for the period from the mid-eighties to the year 2000 will inevitably press more heavily on natural resources already under strain.

In the developing countries, environmental issues are fundamentally concerned with the reversal of present deterioration and the introduction of production systems that will sustain substantially increased output in the long term. Critical problems include deforestation, desertification and degradation of existing cultivated lands. FAO estimates that because of the expansion of agriculture and the need for fuelwood a net deforestation of towards 10 million hectares a year of tropical forests is taking place. Increased erosion and flooding follow. The ever-increasing demand for fuelwood together with over-grazing is also causing an accelerating rate of desertification with approximately one-fourth of the earth's land surface now damaged by factors that contribute to desertification. Poor land and water management have led to resource degradation in the form of erosion, salinization and alkalinization, acidification and the spread of water-borne diseases. While expanded irrigation is essential for larger crop production, some 20 percent of irrigated areas are water-logged, excessively saline or both.

Environmental issues in developed countries related to agriculture stem mainly from the intensification of farming methods. Heavy application of fertilizers and intensive stock raising operations have led to soil and water contamination with high levels of nitrates ~~and~~ possibly posing health hazards. Practices such as monoculture have encouraged an increased use of pesticides with a consequent rising concentration of pesticide materials in food chains. At the same time, pesticide-resistant species of pests evolve and natural predators are eliminated.

Future strains on the environment from increased agricultural production will considerably increase in developing countries. On the contrary, the need for slower growth of output in many developed countries could provide an excellent opportunity to adopt a sounder management of the natural resources used by agriculture. In developing countries, on the other hand, continuing modernization of production technology will involve a more intensive use of mineral fertilizers and pesticides and larger areas under monoculture and irrigation. In broad terms the environmental problems will be: Asia, from increased irrigation and deforestation; Near East/North Africa, from shortage of arable land and increased desertification; Sub-Saharan Africa, from livestock to crop pressures on fragile soils; and Latin America, from deforestation and increased monoculture.

Issues in the oilseeds sector

The outlook for soybeans will be conditioned by a number of specific, rather technical, factors which require a closer look. Firstly, it is important to see soybeans within the context of the total oilseeds and oils economy, where the final demand is for the two very separate products - oil and meal. Overall, growth in the oilseeds and oil economy has slowed down

considerably since the rapid expansion of the seventies although it is expected to continue at rates exceeding population growth. There has been a change in the balance of demand, with consumption of fats and oils growing faster than that of oilseeds. This is expected to continue with important implications for ongoing adjustments in the production sector.

The changed balance of demand enhanced the competitive advantage of raw materials with an high oil content. These materials include tropical perennial crops (oil palms and coconut palms) for which development of high-yielding varieties has been successful and for which further genetic improvements are expected to be applied shortly on a commercial scale. For annual oilseeds ^{1/}, on the contrary, research results have been less dramatic and production expansion has come from area expansion and improved agricultural techniques rather than from the introduction of new high-yielding varieties. The different rates of progress in research have resulted in the development of a technological gap which has tended to give at least some perennial crops a relative cost advantage over annual oilseeds.

The growth of palm oil production, simultaneous with but even faster than that of soybeans in the last 15 years, has had a number of positive consequences. First, the two products together made a very substantial contribution to reaching a pattern of production of vegetable oils and oilmeals which has satisfied demand. In the absence of palm oil, supplies of vegetable oils would have been short and consumers - particularly in developing countries - would have suffered undue hardship. In the absence of soybeans, the expansion of the livestock industry would have been much slower for lack of soybean meal, with its high-protein content and unique amino-acid composition. A second consequence has been the enhancement of the security of supply of vegetable oils owing to the more stable flow of production of palm oil in comparison with oils from annual oilseeds, which - in addition to seasonality of output - are more subject than perennial crops to the vagaries of weather.

Security of supply of vegetable oils - and of oilmeals - has also been enhanced by the increased share of southern hemisphere countries (particularly Argentina and Brazil) in world production and exports. This shift in production towards the southern hemisphere has meant that any supply shortfall in one hemisphere can - at least in part - be made good with a delay of only six months, instead of the twelve months which would have been required had production continued to be strongly concentrated in the northern hemisphere.

The question of research and the extent to which it will succeed in narrowing the technological gap between perennial and annual crops in the medium-term ahead has a number of implications. First, the degree of success will determine how effectively annual oilseeds will be able to compete with perennial crops. Secondly, early advances in research - and particularly its successful application - would also seem necessary to enable oilseed production in developing countries to continue to increase at the rapid pace required by their growing demand for oils and oilmeals as well as by their self-sufficiency goals.

The degree of success of developing countries in expanding their domestic production of oilseeds is one of the main uncertainties in the years ahead. On this will depend not only the international market

^{1/} Including cottonseed, groundnuts, rapeseed, soybeans and sunflowerseed.

prospects but also the extent to which it will be possible for some three major sectors of the population of developing countries to improve their dietary standards which suffer from a low intake of fats. Even with limited increases in consumer purchasing power and slower population growth than in the past, the growth in developing countries' effective demand for both oils and oilmeals will be very substantial.

On the trade side, a high degree of concentration will continue to prevail in the export trade, with seven countries accounting for 80 percent of the world total. In the medium-term, the United States will continue to be the largest exporter, but whether its market share will be eroded depends on how competitive its production will be in relation to other exporters such as Argentina, Brazil, Indonesia and Malaysia.

While import projections are subject to a particular degree of uncertainty, the bulk of the growth of import demand for both oils and oilmeals is projected to originate in the developing countries and the USSR where the outlook is particularly uncertain. In the USSR, trends of imports and consumption have been erratic, especially for oilmeals. In developing countries - and particularly low-income food-deficit countries which include the five largest developing importers of fats and oils, namely, India, Pakistan, Egypt, Nigeria, and China - imports depend on such uncertain factors as the level of domestic production, consumer purchasing power, the availability of foreign exchange and priorities regarding its use.

While protectionism in the oilseeds and oils sector is less widespread than in certain other commodities, exporters as well as consumers in importing countries could benefit from the relaxation of support or other non-tariff measures which promote the domestic production of oil-bearing materials and butter at prices considerably above world market prices. Limiting uneconomic production in certain countries would result not only in an expansion of their imports but also, in some cases, in a reduction of their disposal of surpluses at subsidized prices on the world market.

Issues in the feed sector

A connected issue of considerable importance is the future development of the feed (cereals and oilseeds) sector. Current projections suggest a slowing down in the growth of demand for these feeds, particularly in the developed countries where the bulk of feed is consumed. The slowdown in the developed countries is posited upon a decline in the growth rate of livestock output. As the amount of feed used per unit of livestock output has tended to stabilize in recent years it has been assumed in these projections that the near stability of these coefficients will continue to prevail in the period to the year 2000. Yet on the one hand there are indications that technological progress in the future will increase productivity (by reducing the amount of feed required per unit of livestock production) quite significantly. On the other hand the sharp slowdown forecast in the oilmeals sector may be too conservative as consumption in the centrally planned countries is low and might be expected to rise given the widely held belief that feed productivity in these countries could be increased significantly by increasing the protein content of feed rations. The slowdown in the developing countries would be less than in the developed countries but would still be significant partly because the past expansion started from a very low base but partly because of a slowdown in income growth as well as balance of payments and credit problems. Relief of these constraints could give a significant boost to the demand for feeds in developing countries.

External constraints and macro-economic policy

One of the most pressing issues of relevance to the 5-10 year outlook are developments in the macro-economy of the developing countries and the external setting. The greater integration of agriculture and the rest of the economy witnessed in recent decades will continue to be a feature of the next few years. Domestic macro-economic policies in many developing countries have often damaged agriculture in the past via greater protection given to industry, which therefore discourages investment in agriculture, and overvalued exchange rates, which have hurt both the agricultural export sector as well as import substitution possibilities. Many developing countries have accordingly undertaken structural reform policies to correct some of these (as well as other) imbalances. However, the process of structural reform has been made more difficult and more urgent by growing difficulties emanating from external developments, which have been distinctly unfavourable in the eighties. These particularly include depressed commodity prices, protectionism, and rising external debt. The external macro-economic pressures will probably continue to hamper agriculture. The high level of external debt is likely to remain a problem for several years more particularly in Latin America and Africa, but also to lenders. The heavy debt repayments have hit food and agriculture via reductions in investment on the supply side and curtailed food subsidies on the demand side. It is neither desirable nor acceptable that the food consumption of the poorest people should be reduced to secure the funds needed to service external debts. While some progress has been made in rescheduling external debt there can be little doubt that this factor could still bring about a major upheaval in the world economic system and hence in agriculture over the next few years.

Policy reform in socialist countries

Another major area of uncertainty for the world cereals/oilseeds sector is the policy reform being considered and undertaken in the European centrally planned economies. Already these countries have differentiated agricultural policies; the organization of the sector ranges from mostly private (Poland) to mainly cooperatives (Hungary) to various combinations of cooperatives and state farming in the other countries. Moreover, reliance is mainly on central planning in a number of these countries while there is nearly complete freedom as regards production and marketing decisions in others. The new policies announced in the USSR in April 1989 involve a reorganization of the agricultural administration; new price policies for the future and an extension of leasing. It is too soon, however, to judge the impact of these reforms. Moreover, the impetus to agricultural policy reform in the centrally planned economies is part and parcel of the more general thrust towards policy reform in the quest for improved performance of their economies.

Such reform aims at relaxing some of the rigidities of central planning and at allowing more scope for decentralized decision-making, including on the basis of economic incentives and market signals. Policy reform in agriculture must, therefore, be seen in the wider context of general reform. Given the increasing links of modern agriculture with the rest of the economy, the success of agricultural policy reform may well depend on the extent to which it is co-ordinated with reforms in other sectors and in the economy as a whole. While the projected slight improvement in agricultural output envisaged by FAO is consistent with the reform process that is underway in these countries, there is still a

considerable degree of uncertainty about the outcome over the next few years. If the planned reforms do not succeed then the cereal deficits of the European centrally planned economies could increase further.

Agricultural support, protection and trade liberalization

Perhaps the most important source of uncertainty in the food outlook in the next few years is the question of the reform of agricultural policies and trade liberalization. The Uruguay Round of Multilateral Trade Negotiations covers a wide range of sectors including, for the first time in a substantive way, agriculture. The Mid-Term Review Agreement made progress on reaching agreement that the long-term objective is to "establish a fair and market-oriented agricultural trading system" that would provide "for substantial progressive reductions in agricultural support and protection". It is still too early to forecast confidently the final outcome of the negotiations but an analysis of two possible outcomes may serve to illustrate the potential impact of this factor. For the sake of argument it can be assumed either that no progress is achieved and that the world agricultural trading system returns to the state of the middle-eighties (i.e. aggressive competition for export markets and huge use of subsidies) or (per contra) that the negotiations do lead to a substantial reduction in agricultural support and protection.

The undesirability of refuelling the disarray that world agricultural trade suffered in the mid-eighties need hardly be stressed. The costs to consumers and taxpayers of the OECD countries (18 in all but including all the biggest economies) escalated to reach around US\$ 290 billion in 1987, though the total fell back a little in 1988. Low cost agricultural exporters have suffered substantial losses of income and misallocation of resources has occurred on an enormous scale. However, it must be added that the artificially low prices of cereals at least did provide import cost savings, including to many low-income food-deficit countries. At the same time, the stocks built up as a byproduct of costly agricultural support policies in some developed countries did provide a substantial safety net for world food security. In fact, it was the very presence of these huge carryovers, which amounted to over 450 million tons (or 26 percent of trend consumption) in 1987, that enabled the world cereal economy to withstand two large consecutive declines in world cereal output.

However, the negative impacts of failure to reach agreement on agricultural policy reforms in the GATT, would outweigh by far the apparent benefits. The benefits could be obtained in far more cost-effective ways: the costs could be immense, not only in fuelling an agricultural trade war but also in terms of the ramifications for trade policies generally.

The alternative outcome of the Uruguay Round and one that is highly desirable, is for the GATT negotiations to lead to substantial and progressive reductions in support and protection in the period beginning in say 1991. A review of existing studies undertaken by FAO and discussed at the Committee on World Food Security found that a move towards free trade in agricultural commodities would have several significant effects depending on the number of countries liberalizing and the coverage and extent of the liberalization. Although these studies use analytical trade models that generally do not take full account of the complexities of the real world, they do indicate the possible direction of the impact and the implications of trade liberalization on world food security. Liberalization of industrialized countries' agricultural policies is estimated to raise world market prices, to reduce world price variability and to stimulate

growth in world trade. This improved international market performance could lead to better incomes for producers, increase foreign exchange earnings, reduce the magnitude of sharp price shocks for consumers, and could improve efficiency in the use of resources.

FAO's review concluded that the benefits to developing countries from liberalization in industrialized countries' agricultural policies would accrue mainly to substantial exporters of the commodities concerned. However, some developing countries would incur losses. This highlights the need for multi-commodity trade liberalization, extending to all products of export interest to developing countries and not limited to temperate-zone agricultural products alone, to enable developing countries as a whole to obtain increases in export revenues which would more than compensate for such losses. Other positive effects for developing countries, following an across-the-board liberalization in industrialized countries' policies, relate to increases in their overall level of real incomes, improvement in their terms of trade and considerable gains in rural incomes, thus contributing toward food security goals.

Food security issues and uncertainties

Trade liberalization could therefore make an important contribution to what is by far the most important issue in achieving food security; ensuring that developing countries achieve adequate increases in their domestic production of cereals and other basic foods. The primary responsibility for this must lie with developing countries themselves and will only be achieved if suitable priority is given to agriculture and rural development. The international community will also need to help by providing technical and financial assistance. But it is only by unlocking the vast potential for agricultural production, economic growth and increased income in developing countries that the poverty can be overcome and the purchasing power of developing countries be enhanced.

Some other important issues concerning food security could begin to emerge in the move towards free trade in agriculture. The first concerns the role of food aid in the process of liberalization. While food aid will remain a relatively minor factor - the gains from freer trade being of much greater importance - food aid requirements will remain significant, especially for humanitarian purposes including emergency situations. Traditionally a significant part of food aid supplies has been due to the existence of surplus stocks built up in price support activities. Moreover, a large share of food aid is fixed in value terms, the volume of which varies inversely with the level of prices. A rundown of price support combined with higher world prices for cereals following liberalization could, therefore, put downward pressure on the availability of food aid. Yet requirements are uncorrelated with availabilities. The devastating floods in Bangladesh in 1988, the terrible droughts that struck large parts of Africa in the mid-eighties, the incidence of man-made disasters - resulting today in some 12 million refugees - demonstrate the type of emergency food requirements which arise and which must be met irrespective of the system put in place to govern the functioning of world markets.

The second issue concerns the overall level of stocks of cereals. Presumably a "substantial reduction in support" would mean a much lower level of government held stocks and, possibly, a higher level of privately owned stocks, the total probably being smaller. Yet the variability of world supplies is likely to remain considerable. The weather will continue to cause large production fluctuations whatever the policy regime.

Moreover a move to free trade will expose many farmers to more variable prices which could destabilize output in their countries. Whether the world under freer trade would be holding an adequate level of stocks is hard to gauge. It is a subject on which more research is needed and it is important not to come to hasty conclusions on this difficult issue. It would however seem plausible to suppose that the world would face an increased risk that, following liberalization, the global volume of stocks could, especially in years of below average production conditions, fall short of the minimum required to safeguard world food security - an amount that is currently estimated by FAO to be equal to at least 17-18 percent of global consumption needs. In this case the establishment of an internationally coordinated system of nationally held reserve stocks would have to be placed at the top of the world's agricultural policy agenda.

The goal of eradicating hunger and malnutrition is surely accepted as a common responsibility of mankind. According to the food security concept adopted by FAO's Committee on World Food Security, the ultimate objective of world food security is to ensure that all people at all times are in a position to produce or procure the basic food they need. As mentioned above, prime responsibility for achieving food security must lie with the countries themselves through stimulating food and agricultural production, rural development and economic growth. While many other things are needed to achieve access to food - such as ability to import, availability of cash income, provision of adequate international support - the question of reserve stocks and their role in providing reasonable stability of supply is also one which needs to be attended to. In FAO's view, the international co-ordination of national stocks, coupled with assistance to developing countries to build and maintain their stocks could provide a basis for reaching an international undertaking. FAO is continuing its work in this field and wholeheartedly welcomes this Sub-Committee's decision to investigate the key issue of grain reserves.

FAO SOURCE MATERIALS USED IN THIS PAPER

- Approaches to world food security. FAO Economic and Social Development Paper No. 32, Rome 1983.
- Impact of national grain policies on world grain supplies and prices. FAO Economic and Social Development Paper, No. 56, Rome 1985.
- Agriculture: Toward 2000 (C 87/27).
- The Fifth World Food Survey, FAO, Rome, 1987.
- Committee on World Food Security: Impact on world food security of agricultural policies in industrialized countries (CPS 87/3).
- Agricultural policies, protectionism and trade: Selected working papers, 1985-87. FAO Economic and Social Development Paper No. 75, Rome 1988.
- Recent developments in grains policies of exporting countries (CCP:GR 88/3).
- Utilization of grains as animal feed: Recent trends and issues (CCP:GR 88/5).
- European Agriculture: Policy issues and options to 2000 (ERC/88/Inf/4) (to be published shortly).
- Selected issues in agricultural policy reform: Strengthening market orientation of agricultural policies and the possible role of direct support (CCP 89/19).
- Food Outlook, September 1989 (latest monthly issue).

The Green Revolution Is Our Real Food Security

Testimony by Dennis T. Avery, Senior Fellow,
The Hudson Institute, Indianapolis, IN
before the Subcommittee on Wheat, Soybeans and Feed Grains
of the House Committee on Agriculture
Sept. 26, 1989

My name is Dennis T. Avery, and I am appearing before the subcommittee today as a senior fellow of the Hudson Institute of Indianapolis, Indiana. I am an agricultural analyst, with a farm background and more than 30 years of experience in assessing national and international developments and trends in food and agriculture. I have served in the U.S. Department of Agriculture, the U.S. Commodity Futures Trading Commission and on the staff of President Johnson's National Advisory Commission for Food and Fiber. I also spent nearly a decade as the senior agricultural analyst for the U.S. Department of State, where I followed food and agricultural issues globally — and on a detailed basis in more than 150 countries.

For the last 15 years, I have been force-fed daily stacks of reports giving a detailed picture of the world's current and future food production potential:

- on high-yielding new seeds, new farming systems, new investments in irrigation, new farm-to-market roads, and new research knowledge;
- on the national policies which govern how these assets are used; and
- on the results produced by their interaction.

On the basis of these fundamentals, I have become known during the 1980s as an optimist on the world's ability to feed its growing population over the next several decades. I believe we can not only feed the larger population expected, but can provide better diets for this larger population than in the past. We at Hudson believe this will require additional investments in technology to help farmers cut their costs and raise output. It will certainly require major expansion of the roads, ports, storage and processing facilities to double the delivery of food to consumers. It may also require some increase from recent world farm price levels to stimulate additional farm production, though we do not believe such price increases are likely to be more than modest.

Today I will apparently have to do double duty — serving also as a surrogate for the most pessimistic observer of food sufficiency. I understand that Dr. Lester Brown of the Worldwatch Institute was invited to appear at this hearing to document why he continues to believe that the world is threatened with inadequate food production and perhaps widespread famine over the years ahead. He has spoken recently of "precipitous" declines in world food stocks, degradation of farm production resources in large parts of the planet, and the looming threat of global drought due to the greenhouse effect.

I would prefer that Dr. Brown were here to present his own case and to help you and the public understand how he and I can see the same world so differently. As Dr. Carl Sagan the famed Cornell astrophysicist has

noted, people who make dire predictions should be required to meet especially rigorous standards of documentation. It is Dr. Brown who is making the dire predictions.

The Worldwatch Institute's View

In understanding the difference between Dr. Brown's projections and my own, remember that Lester Brown is more an advocate than an analyst. His writings for the past two decades have echoed one theme — the need for world population management. A significant part of his Worldwatch funding comes from the United Nations Population Fund. He has seized on every opportunity offered by world events to restate the need for population controls. Often, he has based his arguments on food scarcity. However, he has never offered much documentation for his projections of declining food production. Rather, he has cited problems that are indeed occurring on a small scale in certain regions or countries and implied that they will become dominant global realities. So powerful is our fear of hunger that these undocumented claims have made headlines.

The writings of Dr. Brown and other limits-to-growth advocates contributed to a perception of food scarcity which did not occur. They underestimated the technical and economic response capabilities of the world. Unfortunately, the misperception contributed materially to the billions of dollars lost in farm bankruptcies in the 1980s. Equally serious, Dr. Brown has left the public in serious doubt about the effectiveness of agricultural research and development investments — despite the reality that those investments have been an outstanding success for the world.

Rising Crop Yields

In 1974, Dr. Brown wrote in By Bread Alone that improved seed varieties did not offer the world additional food production potential. For evidence, he offered only the statement that world soybean yields had not been increasing. In the years since 1974, world soybean yields have in fact not increased. However, the world's average yield of wheat has increased 36 percent, from 1.76 MT per hectare to 2.4 MT per hectare. World rice yields have increased 38 percent, from 2.4 MT per hectare to 3.3 MT per hectare. Coarse grain yields have risen 30 percent, from 1.89 to 2.5 MT per hectare. These yield gains have been strong enough to produce global surpluses of these grains in most recent years.

When faced with grain yields gain he denied could occur, Dr. Brown infers that they are due to an unsustainable reliance on chemical fertilizers and erodible lands. The reality is quite different.

The reality is that we are living in the golden age of the plant breeder. Plant breeders have produced a wide variety of new seed varieties that make better use of soil, sunlight and plant nutrients than any seeds in the previous history of mankind. Researchers have produced more cold-tolerant winter wheat and barley, shorter-season corn, short-stalked rice and wheat, hybrid sunflowerseeds, low-acid rapeseed and pest-resistant cassava (in both West Africa and Asia). They have almost literally invented a high-protein grain called triticale for high yields under difficult crop conditions. They have cloned new oil palm tree varieties which double

vegetable oil yields. They have produced high-protein food beans and field peas with higher yields and built-in pest protection, to feed both humans and animals. They have also produced new farming systems which use these new seed varieties in more effective ways. Moreover, most of the world's use of fertilizers does appear to be sustainable. As a result, world food production has been outstripping population gains even as we pass through the historic peak of the population expansion.

None of the recent seed varieties introduced has had the individual power of the original Green Revolution wheat and rice varieties — but there are many more of them. (See Annex 1 for a more complete list of recent plant breeding successes.)

Biotechnology is now beginning to make major impacts on plant and animal breeding, giving researchers powerful new tools to amplify their abilities. The first impacts are coming in simple single-cell organisms, such as laboratory bacteria genetically programmed to produce medicines and organic compounds.

The first major commercial impact by a genetically-engineered product may well be from pork growth hormone or pork somatotropin (PST). PST is likely to be approved for use sometime during the next three years, as soon as an appropriate delivery capsule can be refined for implantation in the hogs. PST will reduce carcass fat in U.S. hogs by one-third, increase the proportion of lean meat by 5 to 10 percent, and cut feed grain requirements by 25 percent. The consumer will gain a more healthful, economical meat. Producers will cut their feed costs quite sharply, and they will probably sell more pork at the expense of beef and poultry producers. PST won't produce a single bushel of grain — but could increase world pork production efficiency by the equivalent of 30 or 40 MMT of grain!

The International research center in Mexico has rebred the original high lysine corn and their new high-protein corn has 90 percent of the nutritive value of skim milk. It also has yields, disease resistance and consumer appeal equal to regular corn varieties. The new corn seeds have been released or are close to release in a dozen Latin American countries, China, India and East Germany. They represent a huge step forward in nutritional security for developing countries. I recommend them to Dr. Brown's attention.

As of this year, all major crop plants are now susceptible to biotechnology. Even rice plants can now be regenerated from a single cell. Particle bombardment is making it possible to literally shoot new genes into plants and have them expressed in the plants and their offspring.

Insofar as dependence on chemical fertilizer is concerned, remember that the developing countries are still using very low levels of chemical fertilizers (except on irrigated rice) — but their production is rising the most rapidly. The current evidence seems to indicate that affluent countries could profit by using somewhat less fertilizer, and the developing countries by using somewhat more.

Scarce Land Resources?

Dr. Brown says that the world has plowed all of its available cropland and more, extending cropping onto fragile soils where it cannot be sustained. Certainly there are some lands currently being farmed which should not be. This is particularly true in some difficult environments, such as the island of Madagascar and the highlands of Nepal. Other regions, such as large parts of the Sahel region of Africa, are questionable for intensive agriculture because of their erratic and shifting rainfall patterns. However, these are small, marginal parts of the world's agriculture. Dr. Brown implies that these small marginal regions represent the whole world's pattern for the future — without substantiating evidence.

In addition, Dr. Brown seems to be forgetting some very large and well-known agricultural resources that are still underutilized. — We can begin with the 70 million acres of cropland which the U.S. has been diverting from production during much of the 1980s. That land, even factored for its lower yields, is capable of producing more than 100 MMT of grain in an average weather year, and certainly could do so if the world's grain stocks were drawn down to low levels by an emergency.

— The President of Brazil has authorized four railroads into the Cerrado Plateau. The Cerrado is a large brush-covered plateau that rolls south and west of the city of Brasilia, with an estimated 125 million acres of arable land. The acid soil has been a constraint until recently, because it is acidic — saturated with aluminum. Two years ago Brazilian researchers announced the world's first high-yielding corn hybrid for aluminum-saturated soils, with production of up to 135 bushels per acre. If the railroads are built, the Cerrado could efficiently supply huge amounts of corn, soybeans, coffee and other crops to the world.

— Turkey is building three big dams in the Upper Euphrates Valley which will irrigate some 4 million acres of land now growing low-yielding dryland wheat.

— Sudan has tens of millions of hectares of unplanted fertile clay soils in the valleys of the upper Nile. Sudan also has a new high-yielding sorghum that is far more drought-tolerant than previous varieties and doubles or triples grain yields. The cropland is not yet served by the roads and rails that would make it profitable for farming. However, if the world becomes as desperate for food as Dr. Brown suggests it might, the infrastructure could be readily built.

— Argentina is pasturing cattle on 70-80 million acres of the world's best cropland in its rich Pampas region. The Argentine government has discouraged its farmers with heavy export taxes and high import duties on fertilizer and machinery. Their crop plantings have been declining, and they now use virtually no fertilizer on either corn or wheat. If world food supplies tighten sharply, fertilizer and seeds could apparently double or triple Argentina's recent 20-25 MMT of grain production.

— Thailand is already producing about 20 MMT of rice and 5 MMT corn per year, with hardly any improved seeds or chemical fertilizer. Thai experts are already suggesting that farmers could triple their corn yields — and cut per-unit costs in the process — with modest use of hybrid seed and fertilizer.

Soil Erosion?

In the early 1980s, Dr. Brown announced that the world faced a soil erosion crisis. Not only was the world's cropland limited, but some of it was even disappearing. Dr. Brown focused primarily on Third World soil erosion, but he also specifically implicated the U.S. Corn Belt as one area of severe soil loss. Dr. Brown offered no statistical evidence for his Corn Belt soil erosion crisis, beyond the logic that the Corn Belt was being increasingly planted to row crops. Normally, fields in row crops lose more topsoil than in other land uses.

Dr. Brown, however, announced his Corn Belt erosion crisis in the midst of a dramatic change in farming systems. New tillage techniques called "conservation tillage" and "no-till planting" were coming into broad usage for the first time. Conservation tillage leaves a heavy plant residue on the roughened soil surface, retarding erosion by up to 50 percent. No-till uses herbicide to kill a cover crop and the seeds are planted through the dead vegetation; it reduces erosion to nearly zero. In 1980, 40 million acres of U.S. farmland were already farmed with conservation tillage. By 1987, the total had risen to 100 million acres, with another 16 million under no-till, strip tillage or ridge tillage. A major computerized study by the University of Minnesota recently concluded that at current soil loss rates, Corn Belt soils might lose up to 3-10 percent of their inherent fertility over the next 100 years. Such small losses are likely to be dwarfed by continued yield increases and new conservation techniques.

The most serious soil erosion problems in the world are in Third World countries trying to support expanding populations on traditional farming systems. Such efforts produce the sort of crop failure, deforestation and soil erosion we now associate with Ethiopia and Madagascar. The fault may not lie so much with population growth as with the failure to modernize those agricultures. If the yields on the best land can be doubled, there is little need to extend agriculture to fragile soils.

It is also obvious that the developing countries where Dr. Brown is most concerned about soil erosion can dramatically cut their erosion problems by using conservation techniques such as ridge tillage, terracing, conservation tillage, mulch cropping and alley cropping. The human carrying capacity of the earth can be sustainably increased through such techniques, as alternatives to population control or in addition to population management efforts.

Climate Change?

"As the eighties draw to a close, climate change is being added to an already long list of environmental stresses and resource scarcities that are undermining global food security....The drought-damaged US grain harvest in 1988, which fell below consumption for the first time in recent history, illustrates how global warming may affect agriculture over the longer term in the United States and elsewhere." (State of the World 1989, pp 14-15.)

Since Dr. Brown wrote those words, the greenhouse estimates have been cut in half. Moreover, the recent dramatic cuts in greenhouse estimates underline just how little we know about the greenhouse phenomenon. Until recent months, we did not even know whether clouds increased global heating

by trapping the sun's rays, or decreased the heating effect by deflecting the sun. Recent studies by the University of Chicago tell us that clouds, especially moisture-laden clouds, reflect the sun away and provide a cooling effect. Thus, any actual warming of the earth will provide its own buffering, because it will increase evapotranspiration, cloud cover and rainfall. Two of the most sophisticated climate models in the world have cut their estimates of global warming in half as a result. This is not to suggest that the CO₂ buildup in the earth's atmosphere is benign. However, it is too early to know how large the buildup will be, or how the phenomenon is likely to effect the planet or its agriculture. There is no model that can yet tell us with certainty the world will have more drought and less food output.

We should remember that in 1983 and 1984, Dr. Brown suggested the African climate was changing due to overgrazing and desertification. That charge has been refuted by responsible climate experts. The weather elements involved in Africa's pattern of major droughts are far too big to be triggered by such local factors. Rather, they are associated with the global "El Nino" phenomenon.

Demand Constraints on World Food Production

"A dramatic 2.6-fold increase in grain production between 1950 and 1984 raised per capita consumption by nearly 40 percent. But since then growth has stopped. (Lester Brown, State of the World 1989, p. 12.)

Growth in world grain production has not stopped. According to the USDA, food production in the world has continued to increase at about 0.4 percent per capita through the 1970s and 1980s. Non-U.S. production of wheat and coarse grains in 1989/90 is currently projected at 1,063 MMT, four percent above the 1984/85 total. Non-U.S. rice production is projected at 479 MMT, 7 percent above 1984 levels. Many of the countries where grain supplies are considered marginal for food security are expecting record or near-record crops this year, including India, China, Indonesia, Pakistan, Bangladesh, Nigeria, Ghana, Kenya and Tanzania.

It is true that world food production gains have slowed.

— In large part, that is because demand growth has slowed, due to greater saturation of food demand in affluent countries and to reduced buying power in such countries as Mexico, Nigeria and Indonesia since the drop in oil prices.

— More than a billion consumers in the affluent world are now eating not only caloric sufficiency but large amounts of resource-expensive high protein foods. The OECD countries may now become declining markets for farm resources as their stable populations continue to age and the ham and eggs on the breakfast table are displaced by oatmeal and high-fiber bread. However, these populations represent only about one-fourth of the world population, and that proportion is declining.

— Per capita farm product demand in some developing countries is plateauing temporarily due to incomes. Many people now come closer to meeting their minimum caloric needs than in the past, and have not yet gained the income to move up to higher-protein diets. Nigeria was importing more than two million tons of grain per year in the early 1980s — and after the fall of its oil export revenues it simply banned grain

imports and went back to eating its own corn, cassava and plantains; the ban produced no appreciable hunger, but forced consumers to give up the wheat and poultry they preferred. India has been essentially self-sufficient in grain for 20 years and is only gradually increasing its consumption of milk and poultry. China has radically increased its grain production in the last decade, and as yet can afford only modest amounts of meat and eggs.

Household consumption surveys and other food and health data strongly indicate that the World Health Organization has used too high a caloric standard for adequate nutrition among the small-but-otherwise-healthy populations which characterize many of the poorer countries. This is not to imply that no hunger exists, but that the undernutrition which exists is less pervasive and less health-threatening than WHO official numbers suggest. A significant part of the malnutrition, especially among children, is related to diarrhetic diseases.

Dr. John Mellor of IFPRI has often spoken of the static demand for food which sets in when developing country population reach minimum caloric sufficiency. I have seen it myself in Kenya and Ghana. Huge tracts of eastern Kenya are too dry to grow corn, but they could grow large quantities of sorghum, sunflower and other feedstuffs on which to build livestock and poultry production. Those crops would also serve as important drought buffers. But Kenya's incomes are too low to support much meat demand, so the land is left covered with brush. Many LDCs have actually become food exporters during this plateau period.

Population Threat?

World population growth is already slowing down. The population curve is S-shaped, while there are important reasons to believe that the curve for agricultural science is not. The world population in the year 2000 will be slightly above 6 billion, up from the present 5.2 billion, and will stabilize at about 10 billion in the first half of the next century. The slowing of population growth rates does not owe much to population management. (Contraceptive technology, however, is important.) Rather, the slowing is due to the economic growth and resulting affluence of major populations in such countries as China, India, Indonesia and many others.

Feeding a world with twice as many people sounds dramatic, but the reality is less so when the time frame is 40 or 50 years. We could do it on today's farm output if necessary, though that would mean all of us eating fewer of our preferred foods, and especially meat, milk and eggs. Remember that it takes anywhere from four to eight grain-equivalent calories to produce a calorie of livestock products. But it is unlikely that we will have to cut back our diets except by choice. World population growth rates will be less than 2 percent annually, and the Third World's production of grains and oilseeds has recently been expanding by 2.8 percent per year. The demand trend will depend on improved diets, which will in turn be very sensitive to incomes. If the incomes of large groups of people are rising, then the investments needed to expand food production can be made. The long-term production trend is sustainable, and could even increase as new technologies and more supportive government farm policies come into broader Third World use.

It may be that a smaller growth in world population would be more comfortable, but this is probably not our choice to make. Even in well-to-do societies, few people have shown any willingness to accept the minimalist approach to the future. Nor are Third World residents likely to accept less as more. Birth rates the world over stay high so long as children are an economic asset and a form of social security. Only when economic growth raises more people to better living standards do population growth rates fall. We should also remember that Amerindian societies thought North America was overcrowded with about 6 million people. The Hudson Institute is loathe to believe that lowering human aspirations and imposing population ceilings should be anything but a desperate last resort. We believe in man's advancing knowledge and his ability to manage it effectively.

Africa — Remaining Core of the Food Security Problem

Africa is basically what remains of the hunger problem we thought faced the whole Third World in 1960. There are pockets of poverty and malnutrition in other regions, but nothing on the scale of the African problem. Despite Africa's famine-stricken image, however, more of Africa's countries are currently providing at least minimal caloric sufficiency to more of their populations now than at any time in recent decades. Africa apparently has the natural resources — and is developing the political and economic institutions — to continue providing its own base diets into the future, through domestic production, through exports of cash crops and through nonfarm economic growth to purchase food imports.

Africa has extensive agricultural resources. In fact, it was so land-rich until recently that little research was done to increase food crop yields. Africa has still never planted more than 20 or 25 percent of its arable land in any one year; most of its land is tied up in the low-cost low-yield system of bush fallow. However, important new seed varieties and farming systems are emerging for Africa. To date most of them have come from the international research system, because only a few African countries have built good national agricultural research institutions. (Zimbabwe has one of the best.)

A few examples of African food output potential:

- Sudan's new hybrid sorghum — which has yielded well as far south as Zimbabwe.
- The newest white corn in northern Ghana triples yields.
- New swamp rice varieties respond to fertilizer and give yields as high as 6 MT per hectare, compared with less than 1 MT for most upland rice.
- Alley cropping is already proven as the first fully sustainable farming system ever available to most African subsistence farmers; it intersperses rows of trees to help fertilize and shade the food crops. It eliminates the need for bush fallow, and could permit two or three times as many families to support themselves with subsistence farming as bush fallow.
- Mulch cropping has already made possible the first commercial production of plantains, and could boost yields of other crops.
- Potatoes have yielded as high as 50 MT per hectare in the Ethiopian highlands but the crop is unfamiliar to farmers and there is no extension service.

— New pest-resistant cassava yields 3-5 times as much as local cultivars.

There is good reason to believe that the worst of Africa's farm policy problems can be gradually being overcome. Most of the continent's governments are now aware of the dangers of an overvalued currency, which makes food imports seem cheaper than local farm output. Most governments are no longer suppressing crop prices to please urban consumers — and driving farmers back into subsistence. Tanzania, Nigeria and Ghana have dramatically reversed policies which discouraged their farmers, and all have harvested a series of record crops that bring them close to at least minimum caloric sufficiency.

Ethiopia has some of the best agricultural resources in Africa, but getting them used effectively will require sharply different policies than the current government has implemented to date.

Africa faces inherent difficulties with its erratic rainfall and tropical pests. Its distances are vast, and its population widely scattered. This means the cost of building roads and other infrastructure will be higher, per capita, than it was in the densely-populated rice cultures of Asia.

Africa also continues to have an institutional problem with its communal landholding tradition. The tradition was an important adjunct to the bush fallow system, but it poses serious problems for more intensive farming.

— The Sahel has become a badly overgrazed commons since the colonial governments disarmed the tribes; their weapons had protected a complex system of grazing and transit rights that maintained the resource.

— A new farming system using tied ridges now permits a farmer in Burkina Faso to farm more land, and boost his yields four-fold. The system, however, requires an ox to pull a ridge tiller and a cultivator. How will the village elders — who allocate land — react to capital-intensive commercial farming in their midst?

— In Mauritania, village land on the north bank of the Senegal river has long been farmed traditionally with low yields. In 1984, a new law permitted local officials to distribute "open land" and it came into the hands of commercial farmers. In the next five years, the new owners dug their own irrigation canals, bought small diesel pumps, and boosted rice production from 3,000 MT to 80,000 MT (80 percent of the country's rice requirements). Senegal could do the same on the south bank of the river, but the villages are opposing commercial farming.

Africa will also continue to have a serious problem with periodic droughts. There is little money to build local grain reserves, and very little feed grain which can be diverted to human use in emergencies. The next bad African drought could thus produce a hunger emergency at least as large as 1983/84. That will not mean Africa is failing, or that the world is doomed to hunger. It will simply mean African has not yet progressed far enough to fully protect its food security. However, we now know the path to progress: (1) investments in agricultural research, both international and national; (2) investments in infrastructure (especially roads, storage and processing); and (3) price incentives for small farmers.

Overplowing and Overpumping?

"Farmers can overplow and overpump with impressive results in the short run, but for many the short run is drawing to a close. The result is a worldwide retrenchment in cultivated area and a dramatic slowdown in the spread of irrigation." (Lester Brown State of the World 1989, p. 12)

One of Dr. Brown's themes is that modern agricultural technology produces no sustainable gains. This is an unsupportable premise. Only a small part of the recent food production increases can realistically be assigned to overplowing and overpumping. Those problems have occurred mostly in well-off countries where they are stimulated by government subsidies and in poor countries with no agricultural technology progress.

The "retrenchment" in grains area Brown speaks of has been due to more correctly to world grain surpluses. Farmers in 1989 have planted more than 30 million hectares to oilseed crops. The U.S. has been diverting more cropland since 1984. The USSR has been using more fallow to get higher grain yields. Argentine policies have discouraged their farmers, triggering a 2 million hectare reduction in grain plantings.

Grain Stocks and Food Security

Dr. Brown tells us again in State of the World 1989 that world grain stocks are one of the two best indicators of world food security. Certainly the grain stocks are an important number.

However, the overall world grain stocks numbers give only a poor picture of the real food supply for people at risk of hunger. The world grain numbers include a great deal of feed for livestock, government surpluses and high-quality wheat for affluent trade customers. In 1986/87, the world had 410 MMT of wheat and coarse grains, plus 55 mmt of rice. However, 153 MMT of this was U.S. yellow corn and sorghum, which are not normally eaten directly as food anywhere. Another 75 MMT was wheat held in the U.S. and EC as a price support mechanism.

We must remember that food aid requirements are tiny in comparison with any modern level of grain stockholding and tiny in comparison with overall grain consumption. For the past two decades food aid — generously offered — has averaged about 10 MMT per year. During Africa's continent-wide drought in 1983/84, we managed to double the average to 20 MMT. That level of food aid delivery called for heroic delivery efforts, because food aid almost always has to go to primitive areas lacking roads and bridges.

Food aid requirements are so small in part because most countries hold stocks of their own — even if they are relatively modest and held by farmers informally. During the 1987-88 Asian monsoon failure, India, Pakistan, Indonesia and Thailand all had their own rice reserves. India had wheat reserves as well. Only modest imports were needed to keep consumption at near-normal levels in the region, and the imports were available.

We must also remember it takes only modest amounts of grain to nourish humans directly. It takes 4 to 8 times as much grain to provide a calorie through meat, milk or eggs. Luxury diets take a very large share of the world's current production of grain.

By the same token, however, the world's food grain supply is importantly buffered by huge feed grain supplies normally used to feed livestock and poultry. Since the Corn Belt drought of 1988, U.S. farmers have shifted 19 MMT of grain from domestic meat production to export, to cushion other economies against the crop shortfall. Most of that went to livestock and poultry industries overseas, rather than to food aid. Little was needed for food aid, although food aid requirements rose to the above-average level of 12 MMT. (Much of that went to Bangladesh.) The shift was made quickly and without fanfare, triggered by a modest increase in meat prices. We made an even larger adjustment in 1973/74 when drought hit the USSR, Southeast Asia and Australia in the same year; we pulled more than 40 MMT of grain out of the U.S. feed system to buffer world food and feed supplies.

Finally, we must remember that local farmers adjust rapidly when crop shortfalls occur. They plant fast-growing crops like peas and potatoes as soon as rains arrive. Indonesia planted short-season rice when its 1988 rains were late. Thailand doubled its dry-season rice crop after the monsoon failure in 1988. Such actions are a cost-effective way to deal with crop shortfalls after they occur, and they help minimize the need for grain reserves.

Grain Reserve Policy

With so much buffering in our feed systems, so much transport capacity to move grain to where crops have fallen short, and so much recovery power in the world's latent grain output potential, the world already seems to be holding more grain reserves than it really needs for food security.

Furthermore, the world seems unlikely to need more food reserves in the future. It may be that the variability of grain yields has risen slightly with high-yielding technology. However, it is certainly true that the world's grain consumption flexibility is rising dramatically. Just in the last decade, the volume of grain going to livestock and poultry in the world has risen 40 percent, from 465 MMT in 1979/80 to a current level of 650 MMT. More and more countries have built livestock and poultry complexes. There are more and more feed system buffers in the world — and more and more feed grain stocks which can be converted to human consumption in emergencies.

Most of the proponents of big grain stocks recognize that the food grain reserve requirements are really quite small. Many of them seem really more interested in using grain reserves to stabilize prices. I think it is unfortunate that they fail to recognize one fundamental reality: when there is ample grain in sight, the world price of grain will stabilize at a low level. This low level will tend to undervalue the agricultural resources needed to produce and store that grain, because grain is always cheap when there's more than you need.

Many doctoral dissertations have been done on the coefficients of price response to varying levels of stocks. Such exercises seem to prove mathematically that stabilizing grain prices around their real trend would modestly increase economic efficiency. I would caution the committee

strongly that the mathematical models never have worked out in practice. Price stabilization stocks are generally too small in poor countries and too large in affluent ones. Poor countries begrudge the cost of large grain stocks, with storage and rotations costs, not to mention scarce capital tied up. Such countries almost always rely on a combination of farmers' stocks, consumer belt-tightening and food aid. Affluent countries almost always build their stocks too large because farmers like to see large stocks sealed up in government storage bins rather than depressing prices on the market.

The U.S. is already holding more than its share of the world's grain stocks. Our big stocks have probably diminished the perceived value of agricultural production by both U.S. farmers and domestic farmers in other countries. When an import-dependent country like Japan feels comfortable with one month's feed stocks on hand, I think the world reserves are more than adequate.

Rather than focusing on larger reserves, food aid experience tells us we should be more concerned about the speed of food aid response. Too often in the past, governments in drought stricken countries have been too slow to acknowledge emerging hunger problems, especially in remote or dissident regions. The food aid machinery in donor countries has not always been set in motion swiftly. Ocean transport for heavy grain cargoes itself takes time. Too often, the result has been that food arrives just as the next harvest is being gathered — too late to relieve hunger but in time to depress prices for local farmers who have tried their best to respond. The Sahel region has recently put in place an early-warning system on food shortfalls, and we consider this a very constructive development.

We at Hudson believe it is more appropriate to worry about the speed of our food aid responses than about building still-larger grain stocks. We further believe that the path to real food security for the world's populations has now been proven on every continent — investments in human knowledge (and especially in agricultural research), in building infrastructure, in building viable economic systems so that large numbers of people can contribute and earn, and in offering incentive prices to small farmers.

One of the most important food issues facing the world is where — and on what basis — its agricultural investments for the future expansion will be made. If they are to be made primarily to achieve national food self-sufficiency, the cost will be exorbitant and real food security will be reduced. The infrastructure investments already made by such exporters as the U.S. and the Cairns Group members will be wasted and duplicated. Shifting our investment basis for the future toward more reliance on trade, as we have already shifted it in nonfarm products, would enhance food security and ensure that the world uses its most secure and cost-effective farm resources.

The trends I have outlined today do not mean that the world is in for 40 years of farm surpluses and depressed farm prices. Nor do they mean that the world's food security has been fully and surely achieved. World farm output will be erratic, as it always is. World food demand will vary with economic growth rates and other factors. The use of new technologies will

require some painful adjustments. Some populations and regions will lag behind at times. The most important point I would emphasize this morning is that human knowledge is a more valuable resource, human technology more effective, and human economic institutions more responsive to world needs than the limits-to-growth analysis has been willing to concede. The well-being of our farmers depends heavily on accurate assessment of reality, and on legislative efforts based on such accurate long-term assessments.

(Attachment follows:)

ANNEX I

Recent World Seed Advances

(Most of the following seed variety advances have progressed well beyond the laboratory stage. Most have been released to farmers and made enough of an impact to be cited in agricultural attache reports on crop yield factors. These are only some of the many plant breeding improvements which continue to emerge from agricultural research stations all over the world.)

Wheat

The Consultative Group on International Agricultural Research (CGIAR) has recently awarded its top prize for the development of the Veery family of wheats, which offer a 10-15 percent yield gain in high-quality bread wheat for such sub-tropical countries as Mexico, Tunisia, Zambia and Kenya.

Rice

New swamp rice varieties are sharply increasing yields in West Africa, and freeing its upland fields for profitable tree crops. Yields of improved swamp rice in Liberia are now as high as 2.2 MT per hectares, compared to less than 1 MT for local upland rice.

Thailand has a new dry-season rice, Suphan-60, that yields up to 25 percent more under field conditions and has excellent market acceptance.

Indonesia's latest rice extension program, SUPRA INSUS, uses not only the latest varieties and pest control, but even uses plant growth stimulator to get the young rice seedlings off to a fast start. Yields range as high as 6 MT per hectare.

China is getting 25-30 percent yield gains from hybrid rice, and is introducing new shorter-season hybrids to cover a larger proportion of its rice crop. The hybrid rice involves a large amount of hand labor in order to pollinate a crop which had evolved through self-pollination. Thus the hybrid seed is relatively expensive for most countries. Researchers in China and other countries are searching for a male-sterilizing chemical which would eliminate the hand labor. Shell Chemical found one that worked, but it proved to be carcinogenic, and thus a potential threat to workers in the seed production process. If the world had been desperately short of rice, the chemical might well have been approved for use on seed farms, with special precautions for the work force.

A new semidwarf long-grain U.S. rice variety, Lemont, has cut the cost of production by 50 percent, through higher yields and greater stress resistance.

Millet

U.S. scientists have discovered a gene which gives pearl millet a 25 percent yield advantage in a drought. Pearl millet is one of the major food grains in the most arid agricultures of Africa.

Triticale

Triticale is a naturally-occurring hybrid of wheat and rye which is sterile in nature. Researchers induced it to reproduce, and it was refined into a high-yielding grain at CIMMYT, the International Center for Maize and Wheat Improvement Center in Mexico. Triticale has very high protein and attractive flavor. It yields substantially more than grain such as rye in difficult conditions where wheat will not grow — light and/or acid soils, cool temperatures, etc. It is being extensively planted in both western and eastern Europe and test-planted in at least 50 other countries.

Corn

The latest white corn varieties in Guatemala yield up to 7 MT per hectare in a country with a national average of 1.5 MT. The same varieties double corn yields in West Africa.

The newest white corn for northern Ghana triples local yields.

Indonesia's local corn varieties yield about 2 MT per hectare, improved open-pollinated varieties about 4 MT per hectare and local hybrids 7-8 MT. Only a small proportion of the corn is hybrid, because local white corn is preferred for food use. Food corn demand is stagnant. As feed demand increases, hybrids are expected to dominate the production — tripling national average yields.

The Philippines is in a similar situation to Indonesia, with hybrids that will triple the current yield average of 1.2 MT per hectare.

Brazil has announced what it calls the first high-yielding hybrid for aluminum saturated soils, and the new corn has yielded as much as 8 MT per hectare in the Cerrado Plateau.

CIMMYT has refined and released high-lysine white corn for better nutrition in countries where corn is eaten directly as food. The original opaque-2 gene discovered in the 1960s carried twice as much available protein but also had detrimental side-effects. It had erratic yields, poor resistance to field diseases and storage deterioration and a chalky kernel that consumers resisted. The rebreeding has given it yields and consumer appeal equal to normal corn. Researchers are working to incorporate the high lysine and tryptophan levels into U.S. corn varieties, where they could cut feed requirement by perhaps 2 percent.

Sorghum

Sudan's new hybrid sorghum, Hageen Dur, yields more in a bad year than its traditional varieties do in a good year, and double or triple normal yields in the good years.

Thailand has heretofore grown little sorghum and most of that has been a low-yielding high-tannin variety unsuited for feed use. A new sorghum variety with low tannin was released last year, and yields up to 60 percent more in farmers' fields. Its high feed value per hectare and drought tolerance will probably spur a strong expansion of sorghum at the expense of cassava and low-yielding local corn.

Venezuela has adopted hybrid sunflowerseeds from Argentina which double its yields.

Cassava

Indonesia has a new cassava which yields up to three times as much as its traditional varieties. More cassava is being exported for feed as a result.

A West African cassava variety is resistant to several endemic pests and thus yields three to five times as much as local varieties. Farmers call it "six-month" cassava, to distinguish it from the traditional tubers which may need two years before they are ready for harvest.

Sugar Cane

Indonesia has a new dryland sugarcane variety which can be grown on less-valuable non-irrigated land. The new sugarcane will permit expanded sugar production on the country's outer islands, while 150,000 hectares of prime irrigated land are shifted to rice on the crowded island of Java.

Oilseeds

High-yielding double-zero rapeseed — low in both eruric acid and glucosinates — has been bred in Canada. The oil is extremely low in polyunsaturates and the meal is far more valuable for livestock feed than that of high-acid varieties. It is being grown extensively in Canada, Western Europe, Eastern Europe and the USSR. It also has important potential for India and Pakistan.

Brazil has bred high-yielding soybeans which can be planted closer to the equator than previous beans because they are less sensitive to photoperiod length. The new soybeans have helped raise Brazil's soybean production to record levels.

A new South Korean soybean boosts yields by 60 percent. South Korea has very little land for soybeans, but the new variety may also have implications for neighboring China.

Tree crops

(The progress expected in tree crops deserves special mention, because such techniques as cloning and tissue culture have cut tree breeding times from decades to a few years. Tree breeding has made very rapid progress recently as a result, and we can expect more of the product man needs to be produced with greater efficiency from trees in the years just ahead.)

New high-yielding rubber trees in Thailand offer three to four times as much latex as ordinary trees, even on smallholder farms without sophisticated management.

Kenya has a new coffee tree that can be grown with hardly any chemical sprays. The tree has built-in resistance to the common coffee tree diseases in the country. It can also be planted twice as densely. The elimination of chemical sprays will cut production costs by two-thirds and cut out the heavy foreign exchange drain of imported pesticides used on other trees.

In the 1970s, Indonesia and Malaysia imported West African palm oil seedlings and refined them for Southeast Asian conditions. Now, cloning and tissue culture have helped produce still higher-yielding trees, which are being used to replant older groves. The newest trees add another 50 percent to vegetable oil yields.

Forage Crops

The International farm research center at Cali, Colombia, found and refined a wild legume (*Acyroanthos*) which increases dry-season fodder yields on Latin American acid-soil grazing lands by 25 percent over previous improved forage crops.

Leucaena leucocephala, a shrubby tree native to Central America, has become a high-protein dry-season forage in many parts of the tropics, from the Deccan Plateau of India to the rice paddies of Indonesia and the Philippines and most recently in Ethiopia. It is also a promising alley crop tree in parts of West Africa.

U.S. researchers have bred and released a drought-hardy warm-season grass, WW-Spar Bluestem, along with a machine especially designed to harvest the seeds. Released in 1982, it is already planted on more than 1 million acres.

A drought-tolerant line of white clover has been bred and released by USDA and the Mississippi State Experiment station.

Statement by John A. Schnittker
Before the Subcommittee on Wheat, Soybeans and Feed Grains of
the U.S. House of Representatives Committee on Agriculture
September 26, 1989

Background

Mr. Chairman and Members of the Subcommittee: I appreciate the invitation to present my views on the U.S. grain reserve system in the context of the 1990 farm bill.

The U.S. had a general policy of maintaining large carryovers of grains for 40 years, but it was not a specific reserves policy. Then in 1977, the Farmer-Owned Reserve (FOR) was established in response to earlier world-wide shortages, to isolate a portion of the grain stockpile from the market through amendments to the price support loan programs. In 1980, the Food Security Wheat Reserve was established and eventually set at 4 mil. tons, to meet food aid needs when market supplies and CCC stocks were not large enough to meet commercial and food aid demand without significant market disruption.

The FOR and the Security Reserve played a role in absorbing excess grain stocks after the 1980 limitation on shipments to the USSR. The FOR was occasionally turned into a supplemental price support program, as stocks rose. Farmers and others storing reserve and surplus grain came to depend on storage income, and were reluctant to have their bins emptied as harvests declined in 1983, 1988, and 1989. Accumulation of huge surplus stocks as a result of poor administration of both acreage and export programs, especially before 1986, cast a long shadow over legitimate reserve programs, even though the surplus stocks proved later to be extremely valuable.

Now we are at a new stage in the development of U.S. reserves and carryover policy. Depleted reserves make it an opportune time to consider revised policies and procedures with minimum disruption. Twelve years of experience provide some guidelines for the future. Recent droughts have reminded us of the value of grain and oilseed stocks. Concern about a deteriorating long-term climate for crop production adds support to grain reserve policies. The ongoing Uruguay Round of trade negotiations presents an opportunity for the U.S. to urge other countries to consider positive reserves and stocks policies in the context of broad security and price stability in a trade oriented world.

Principles

I want to cite three well established principles or widely held beliefs in respect to stocks and reserves:

1. The U.S. should continue its policy of maintaining large stocks of principal storable agricultural commodities, above levels that would be held in a strict market economy. Production instability, the endless quest for relatively stable prices, our trade expansion objectives, and our role in agricultural trade make stocks wise and necessary. Ideas on appropriate stock levels, who should own the reserves, and how to manage them may vary, but a stocks policy is given.
2. The U.S. should continue its policy of earmarking a portion of its wheat and feed grains stocks as reserves. We should do this irrespective of the stocks and reserves policies of other countries, since it is clearly and strongly in the U.S. interest to do so. We could add oilseeds to the reserve, but perhaps 1995 will be a more opportune time to consider that.

3. The U.S. should also encourage other countries, especially the EC, Canada, Japan, and Australia to institute grain reserves policies as a part of subsidy reduction and world trade and price stabilization, to regularize development assistance, and to ensure a generous response to world food emergencies. The Uruguay Round of multilateral trade negotiations is the appropriate forum in which to present U.S. proposals, or to respond positively and pragmatically to proposals by other countries on reserves.

Proposals

In the framework of these three principles, I have the following suggestions. I will provide the Subcommittee with draft amendments to existing law to carry out the principal recommendations.

1. Provisions of the 1985 Food Security Act relating to total stocks objectives are generally on the right track, but need some revision. We should increase production when stocks are expected to fall materially below 1 billion bushels of wheat and 2 billion bushels of corn, roughly 40% and 25% of total annual demand (assuming those targets are confirmed in 1990). We should reduce production promptly when stocks threaten to rise sharply above the targets, after making reasonable efforts to expand exports. Congress should give general directions on using the acreage reduction programs to increase or to reduce stocks, with the objective of keeping them in the target area. If other major countries adopt stock and reserves policies, U.S. targets might be reduced.
2. Present provisions for automatic application of 20% and 12.5% ARP's for wheat and corn, respectively, when stocks

will exceed 1 and 2 billion bushels are out of date. More than 10% of the U.S. wheat base acreage has been contracted in the Conservation Reserve since 1985. We are not likely, for example, to need a 20% wheat ARP in the early 1990's. Simple formulas can be written to bring more precision to ARP decisions, while leaving necessary discretion for the Secretary of Agriculture.

3. Present law setting minimum FOR targets of 300 mil. bu. of wheat and 450 mil. bu. of feed grains needs review and revision.

- a. For wheat, I suggest combining the FOR and the Wheat Security Reserve into one program with special provisions for "calling" 3-4 mil. tons of the FOR to market on 60-90 days notice for use as food aid. There is no need for the CCC to own the Wheat Security Reserve, so long as farmers who own it and contract to store it on their farms or commercially agree in advance to the special conditions under which it would be called in. Secretaries of Agriculture and Congress continue to talk about minimizing CCC control over stocks, limiting government intervention in the market, and maximizing farmer ownership of reserve stocks. Here is an opportunity to do it. The FOR target could be increased to (say) 20% of expected total demand of around 2.4 bil. bu. of wheat per year. This would provide a combined FOR/Security Reserve approaching 500 mil. bu., or 1/2 the total stocks objective.

- b. For feed grains, I believe Congress should simply consider whether or not the 450 mil. bu. reserve target is still reasonable, in the context of an appropriate total carryover objective. Budgetary considerations, the risk of increased production instability, or the fact that feed grains are not so important to the world as food grains may suggest lower or higher reserves for the 1990's.
4. There is no need to offer special incentives to place grains in the reserve, but Congress could provide the Secretary some options. Reserve entry can begin when production materially exceeds demand, and when the FOR is below its targets. Availability of excess storage capacity in the 1990's will provide the opportunity to put storage rates on a competitive bid basis, while still attracting grain to the reserve. Reserves can be accumulated over several seasons; there is no need to set ARP's to rebuild or to reduce reserves or total stocks to the target in a single year. The idea of offering higher price support loans as an incentive to place grain in the reserve has been pretty well discredited by experience.
5. Provisions for removing grain from the FOR need to be entirely rewritten. Release prices for the regular FOR should be based on 3-5 year average market prices, not on target prices. I suggest release prices around 115% of recent average market prices when total stocks exceed the targets. This would assure that early release would not cause very low prices, but would still give farmers some flexibility.

The release price could be 125-140% of recent average market prices when total stocks are, or are expected to be, below the target. This is when the public at large may benefit from the reserve. It ought not be expended at the producers option, possibly at relatively low prices, only to find later that stocks should have been held longer in the public interest.

I suggest two year reserve contracts, instead of three years, to add flexibility. Contracts can always be extended. With sensible release prices, PIK certificates should not be used to redeem reserves at prices lower than otherwise provided.

6. The question of international commitments on reserves policies is a difficult one, but it can be simplified if we learn from experience.
 - a. When international grain reserves policy was debated in the 1970's, the discussion bogged down in administrative detail, and in the mistaken idea that the world should have "an international grain reserve".
 - b. Discussions finally led to the idea of national grain reserves managed by national governments under their own procedures, subject to agreed guidelines. Opposition by U.S. officials, preoccupation with detail, and worldwide recovery of grain production scuttled the talks in the late 1970's.
 - c. In 1990, leading countries should concentrate on the following simple objectives and measures:

1. Establish grain stocks or reserves principally to meet national objectives. The FOR in the U.S. and India's 25-30 mil. ton reserve provide the best examples of reserve policies based largely on national self-interest, with important international implications.

2. Use reserves policy as a safety valve for periodic excess grain supplies. Exporting countries would first store grain instead of subsidizing its exportation. Later they could limit production or marketings using methods familiar to them, when reserves turned into surpluses. The EC provides the best possibility here, but Canada, Australia, Argentina, and Japan are also important. An international agreement on wheat stocks would reduce incentives for excessive subsidization of wheat export prices which in turn affect export prices for other grains. It would be useful to come to an agreement with Canada, Australia, and the EC especially, to share the burden of carrying world wheat stocks, and of production adjustment when that becomes necessary.

3. Adopt general guidelines, in contrast to past efforts to reach agreement on specific reserve quantities, and on detailed procedures for using the reserves. Some may object that without firm and binding rules for building and using reserves, the new policy would be ineffective. If we are to have some prospect for success, an international accord on stocks and reserves must be kept simple and general.

CHARLES L. SYKES

ASSISTANT EXECUTIVE DIRECTOR OF CARE

THE IMPLICATION OF A GRAIN RESERVE ON WORLD HUNGER

In light of recent U.S. droughts and projected food aid needs and availabilities in developing countries over the next five years, we commend the Committee for scheduling this hearing. With the Food Security Wheat Reserve Act of 1980 scheduled to expire on September 30, 1989, we commend the Committee for initiating public debate and discussion on this important and complex subject at this time.

It is clear that Congress has long been interested in the concept of a fair and equitable International Food Security Reserve and has on occasion urged the President to negotiate with other nations to establish such a system of reserves. Although nations have at various times agreed to enter discussions on a system of grain reserves to regulate food availability and to respond to shortfalls in poor developing countries with chronic food deficits, agreement on a global network of nationally held reserves still eludes the international community [Section 604, Foreign Relations Authorization Act of 1979]. This concept was echoed in an amendment, i.e., Section 412, to the Agricultural Trade Development and Assistance Act of 1954 [Public Law 480]. The basic question, indeed challenge, is: Can the U.S. help put in place an international grain reserve system which is responsive to global food aid emergency needs, avoids harming U.S. and developing country farmers, and brings the international community a step closer to the kind of world we'd all like to see in the last decade of the 20th century? CARE would vigorously support a system which accomplished all these purposes.

Since the benefits and implications of an international grain reserve are multi-faceted, let me briefly summarize those aspects of such a system which directly relate to CARE's experience, i.e., those implications which relate to effectively responding to emergency food aid need. In the early post World War II period, America's vast grain surpluses constituted a de facto global grain reserve. For example, we were able to assist India avert a major famine in the late 1960s, launch its own green revolution, and build up its own food security reserves to 12 million tons by 1971. Due to crop failures in major grain producing areas of India during the 1972/73 crop years, India's food security reserves were almost totally exhausted by 1973. You may recall that this was the same period of the oil shock, dollar devaluation, and drought in the United States, resulting in the skyrocketing of food prices. The \$33 million in food aid commodities we had requested through the Title II, P.L. 480 program to reach 14 million children and landless agricultural workers on land reclamation programs suddenly cost \$55 million--far in excess of the funding level for the program. As Director of the CARE program in India at that time, I had to go through the very painful experience of sitting down with my Indian counterparts and eliminating more than 3 million children and workers from the

program. Translated into nutritional terms, this meant that each child's diet was reduced by 350 calories and 20 grams of protein, or stated another way, that 15-20% and 40-50% respectively of each child's recommended daily allowances of these nutrients were withdrawn. Translated into human terms, it meant higher child mortality and morbidity levels and a sharp drop off in attendance of the poorest children attending primary schools. Had there been an International Grain Reserve and a timely release mechanism for emergencies, similar to the one provided for in the Food Security Wheat Reserve Act of 1980, we could have responded to the India program shortfall. I use India as an example, but please bear in mind that millions of children and landless workers were dropped from food aid programs in other poor developing countries that same year.

One of the important and fundamental questions raised by our supporters and friends in the U.S. agricultural community about an international grain reserve is its impact on prices. There are people here today vastly better qualified to respond to that concern. However, I believe that CARE can provide part of the answer and that is to assure the family farmers, the grain producers, and our supporters in the agricultural community that any grain released through CARE for emergency purposes is going to reach people who not only desperately need it, but who would have no means for obtaining it in any other manner. In other words, the recipients are in need of food but have no way of expressing that need in classical economic terms. My co-panelist, Dr. Mellor, puts it very well when he says that there are only two dignified ways for people to obtain food--either grow it or buy it. A third, perhaps less dignified, way is to work for it, but that point may be less important to the Committee than the areas of agreement I have with Dr. Mellor.

CARE's first priority as an organization is to either assist poor people to grow their own food or to earn their own income and buy it. But the magnitude of the hunger problem at this point in time is such that chronic and acute malnutrition is increasing and not declining, and food aid is frequently the only short/medium term response. I think the excellent work done by IFPRI, the Economic Research Service of USDA, FAO, and the National Academy of Science in global production variability will bear us out on this point. We can be certain that emergency food aid needs will not disappear in the near term and that an international grain reserve or national wheat reserve, with an effective release mechanism for emergency purposes, will be of vital importance in guarding against a repeat of our experience in 1973. It will also be important to clearly spell out a replenishment provision for any such reserve.

It might be useful to engage some donor countries, like Japan, which are not traditional grain exporters, but who are increasing their role in the food security area as part of burdensharing. H. Con.

Res. 91, offered by your colleague, Mr. Bereuter, entitled Japanese Burdensharing and World Hunger, provides a good starting point for broadening the scope and involvement of other countries in discussions of an international grain reserve. Eventually one could visualize the inclusion of developing countries which have grain reserves and grain reserve policies.

A fair and equitable international grain reserve agreement could indeed remove some of the rancor and friction now prevailing in the international grain trade market. We recognize that our views on this issue cover only a fractionate part of this Committee's concerns, and we appreciate your giving importance to the emergency needs dimension of a grain reserve.

To conclude Mr. Chairman, we recognize that there have been many attempts to establish an International Grain Reserve. Should attempts fail to create such an international reserve, we would support the reauthorization of a U.S. food security reserve. We would also urge your support for early replenishment of this reserve. Finally, we would urge that the reserve be tapped only for the purpose for which it was established and none other.

I will be glad to try to answer any questions the Committee might have on this issue. Thank you for inviting us.

Statement of William H. Meyers
Professor of Economics and CARD Associate Director
Iowa State University
Before the U.S. House of Representatives
Committee on Agriculture, Subcommittee on Wheat, Soybeans and Feedgrains
September 26, 1989

Mr. Chairman and Members of the Committee:

I welcome the opportunity to appear before you this morning to make a personal statement on the current U.S. grain reserve system and alternatives for the future.

Prior to 1977, the United States did not have a well defined and consistent stocks policy. For several years following the establishment of the Farmer-Owned Reserve (FOR) in the Food and Agricultural Act of 1977, such a policy did exist and was implemented through the FOR Program. In the early 1980s this program began to deteriorate and eventually lost its viability as a balanced grain reserve program. The frustrations with the seemingly unmanageable growth of stocks in the mid-1980s led to a decline in the support of the grain reserve concept, but the recurrence of a severe drought in 1988 was a reminder that some kind of reserve stocks policy may be important to the United States.

Origins and Objectives of the FOR

The volatile behavior of grain markets in the early 1970s sparked discussions and research on policies to stabilize grain markets and to ensure food security. The FOR for grains, instituted in 1977, is an outgrowth of these debates and studies. It is true that large grain stocks were accumulated under CCC ownership in earlier years, but these

were the consequence of the commodity loan program not the result of a planned reserve policy.

The objectives of the FOR included the stabilization of prices within a fairly wide band, the increased reliability of a U.S. as export supplier, and the maintenance of an emergency or food security reserve for humanitarian purposes. Previous efforts to reach agreement with other countries on establishing an international grain reserves program had consistently failed, so it fell to the United States to design and operate unilaterally a reserve program which, in effect, stabilized world grain prices. In fact, the internal price policies of the EC, Japan and numerous other countries, which insulated their domestic markets from international price variability, further increased the instability of world grain prices.

Provisions and Implementation of the FOR and Their Evolution

The FOR began with a commodity loan level the same as that for the regular loan program. However, the advanced storage payment provided to farmers made placement in the FOR more attractive than forfeiture of the grain when prices were low. This combination, in effect, led farmers to increase their stock holdings, keeping average annual prices above the loan rate in periods of surplus and substantially reducing the quantities of grain forfeited to the CCC.

The release prices (at which farmers were permitted to redeem FOR loans and sell their grain) were initially set at 25 percent above the loan for feedgrains and 40 percent above the loan for wheat. This provision did not place a ceiling on grain prices, but increased the movement of stocks into the market at that level and slowed the rise of grain prices once the release opportunity was announced. The call prices

were set at 40 percent above the loan for feedgrains and 75 percent above the loan for wheat. This was designed to be a more effective price ceiling, because farmers were then required to repay their reserve loans and in most cases would also choose to sell the grain at that time. However, CCC owned stocks of grain were permitted to be sold only at prices slightly above the call level. Presumably, the CCC sales price would place an ultimate ceiling on prices, unless the shortage was so severe that the total accumulation of reserve stocks would not be sufficient to keep prices from rising further.

For several years, the corn FOR performed in a fairly balanced matter. That is, price limiting releases from the reserve approximately offset price supporting placements in the reserve over a period of years (Figures 1 and 2). This was not the case for wheat, where placements were almost continuous and releases were very infrequent (Figures 3 and 4). This kind of pattern leads to a continual accumulation of stocks over time. In fact, large redemptions of wheat FOR in 1983 and 1984 were only made possible by PIK payments, since prices were far below the release price throughout the period.

When placements far exceed redemptions over a period of time, such as occurred with wheat from the beginning and with both wheat and feedgrains after the early 1980s, it is indication that the established stabilization range for the prices is too high relative to other conditions in the market. Two major factors appeared to have contributed to the demise of the FOR as a viable grain reserve program beginning in the early 1980s, first for wheat and then for feedgrains. The first is that the stabilization range defined by the reserve loan and the release price increased rapidly between 1980 and 1982 (Figures 2 and 4). This increased

the incentives for farmers to put grain in the reserve but increased the price at which they would be permitted to release it. A second factor is that acreage reduction programs were very weak in 1981 and 1982, leading to increased supplies that were then absorbed by a growing FOR.

Although the drought of 1983 substantially reduced the corn FOR, the problems of imbalance in the grain reserve have continued, leading to large FOR and CCC stocks and the need for massive use of PIK certificates to get accumulated grain out of the FOR and the CCC reserves (Figures 5 and 6). Thus, the FOR program as originally designed has not really operated since the early 1980s.

Effects of the FOR on Market Prices and Supplies

A number of studies of the FOR have been conducted over the years since its inception. Many of these are summarized and compared in a recent publication of the North Central Regional Research Committee NC-169 that I would be happy to provide to the committee. Although the studies do not agree in every respect, the preponderance of the evidence is that during its early years the Farmer-Owned Reserve raised grain prices, increased farm income, reduced nonrecoverable government costs, and raised total CCC outlays for farm programs. Most of these studies also agree that the FOR reduced grain price variability. Because the studies were conducted prior to the drought of 1983, the research results for corn may overstate the impact of the FOR on price level and understate the impact on price variability.

An assessment which is consistent across most of these studies is that the FOR was asked to do too many things. By design, the FOR was a stabilization program to allow a substantial degree of price fluctuation but to cut the peaks and valleys to protect grain producers from the lower prices and livestock producers and food consumers from the higher prices.

It is true of any stabilization program that if the price range is set too high relative to other market conditions the result is a continual accumulation of stocks. This is exactly what happened to the FOR.

Given the uncertainty of the many factors that influence grain markets over time, it is difficult to establish a price range that will lead to a balanced program. Moreover, experience with the FOR provisions suggest that it is also difficult to insulate these price ranges from political pressures to increase them.

Another important lesson from the FOR experience is that the grain reserve does not operate in isolation from the other commodity programs. In particular, we operate an acreage reserve program as well as a grain reserve program. In the early 1980s when the acreage reduction programs were very weak in the face of rising supplies, these surpluses ended up in the FOR. This is not unlike the situation in the 1950s when relatively high loan rates and ineffective acreage reduction programs led to a large accumulation of CCC owned stocks. Thus, any decision about grain reserve programs and their design cannot be made outside the context of the other commodity programs that are in place.

Future Grain Reserve Policy and Programs

Having been through a period of excess supplies, the price stabilization motivations for a reserve program are not given a high priority today. However, the drought of 1988 in the United States coincident with a poor crop in the Soviet Union is a reminder that short run price variability should still be a concern. At the present time, a broader constituency may exist for objectives relating to the reliability of the United States as an export supplier and the ability to provide emergency food relief for humanitarian reasons.

In general, the justification for government supported grain reserves derives from the concept of market failure. That is, does the private market on its own carry sufficient stocks to meet the policy objectives of the society? The one experience that we have recently had when the government deliberately disposed of all reserve stocks in the early 1970s turned out to be a painful one. I would caution against going back to this policy just because we have been through a period of excess in the other direction. Rather, these two extreme experiences should persuade us to design a grain reserves policy that has modest ambitions and programs that are flexible in the face of changing market conditions.

I am not advocating a specific proposal for a grain reserve program, but I would like to suggest some options and guidelines:

1. When we have a substantial acreage reserve, the size of the grain reserve need not be as large. If stocks are drawn down due to low yields one year, acreage can be returned to production to increase supplies and stocks the next year. This was, in fact, the case in 1988/89 and 1989/90 for wheat and corn. If acreage reserves are low or nonexistent the grain reserve would need to be larger, since it could not be replenished as quickly.

FAPRI projections are for the corn annual acreage reserve to be slightly over ten percent of planted acres, given normal weather conditions over the next five years. Wheat acreage idled in annual programs is expected to be quite small in 1990 and to range from five to ten percent of planted area during the next five years. These figures exclude the conservation reserve program acres, which currently cannot come back into production following a short crop. These figures suggest that the wheat sector is likely to be somewhat more sensitive to weather

shocks over the next few years than would be the case for corn. However, it is also true that both wheat and feedgrains are expected to have far fewer acres in annual programs than has been the case during the last few years.

2. The Farmer-Owned Reserve Program needs to be overhauled or replaced. This program or its successor should be focused on the objective of maintaining the reliability of the United States as an export supplier. Its size should be related to potential weather shocks in the United States and probably also to potential weather induced shocks in export demand.

3. The FOR or its successor should have provisions that are as simple as possible, flexible in the face of changing market conditions, and inflexible in response to political pressures. The most simple scheme would be an extended loan program with a storage subsidy. This would keep the level of CCC owned grain low by reducing forfeitures, while increasing the level of private stocks at any given price. It may be necessary to have a trigger price at some percentage above the loan rate at which the storage subsidy is discontinued, but this need not limit the farmers from selling the grain at any price or anytime that they wish. In any case, farmers holding reserve grain would be induced by higher market prices to sell the stocks in periods of shortage and conversely to hold more in storage when supplies are plentiful and prices are low. This type of program would also have the effect of providing some degree of increased market price stability, but a specific price range need not be prescribed.

4. The emergency or food security reserve would best be owned and administered by the government through the CCC. Since this would be

designed to provide supplies in times of severe shortage, the minimum price for the release of these stocks should be above the trigger price at which storage subsidies are terminated in the farmer owned reserve.

These are somewhat general principles and suggestions. The main thrust of these suggestions is to avoid the two extremes of no reserves and excessive reserves by following cautious and simple rules in the design and implementation of these programs.

That concludes my statement. I would be happy to answer any questions that you may have.

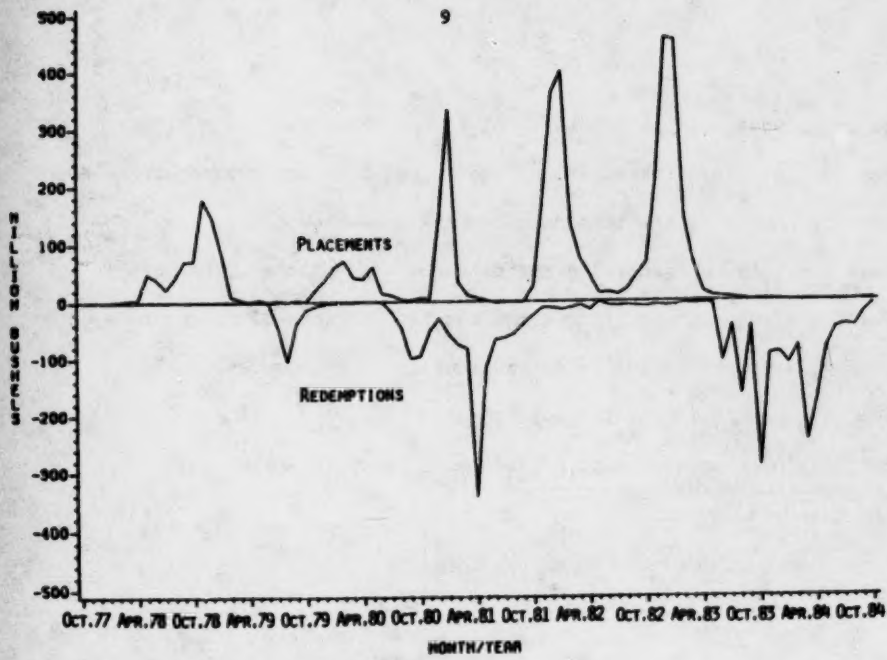


Figure 1. Corn FOR placements and redemptions.

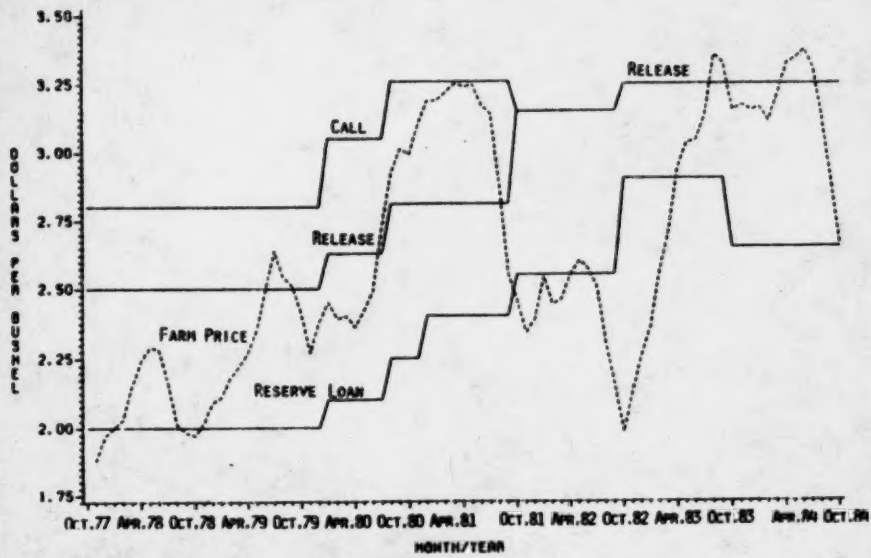


Figure 2. Corn market price and FOR price parameters.

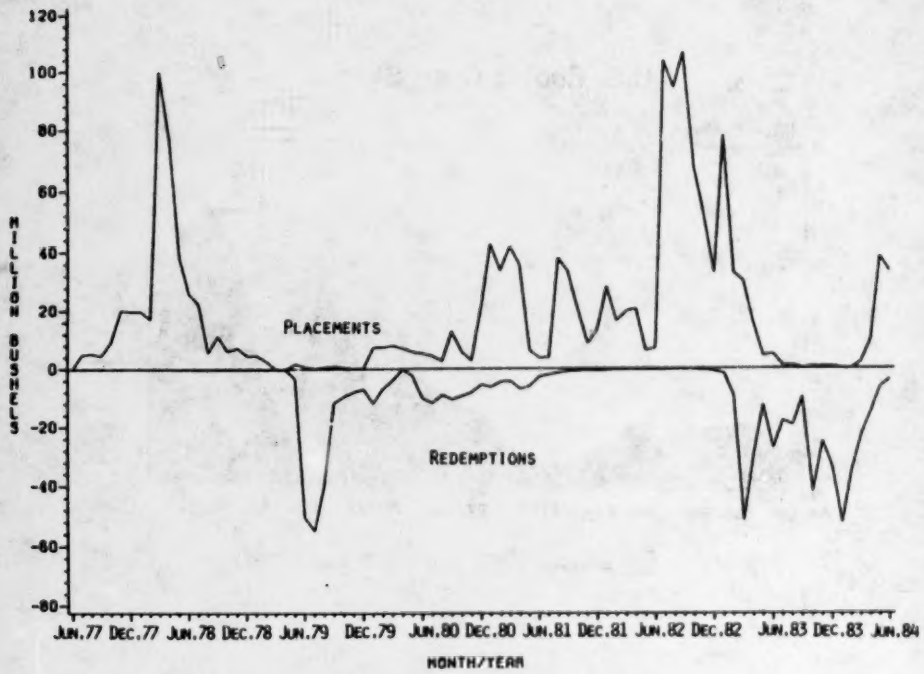


Figure 3. Wheat FOR placements and redemptions.

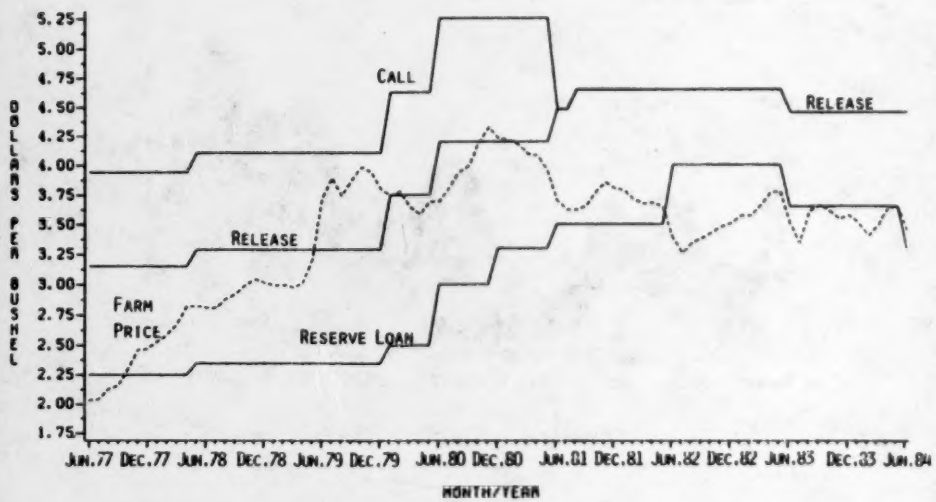


Figure 4. Wheat market price and FOR price parameters.

Figure 5. U.S. Ending Corn Stocks

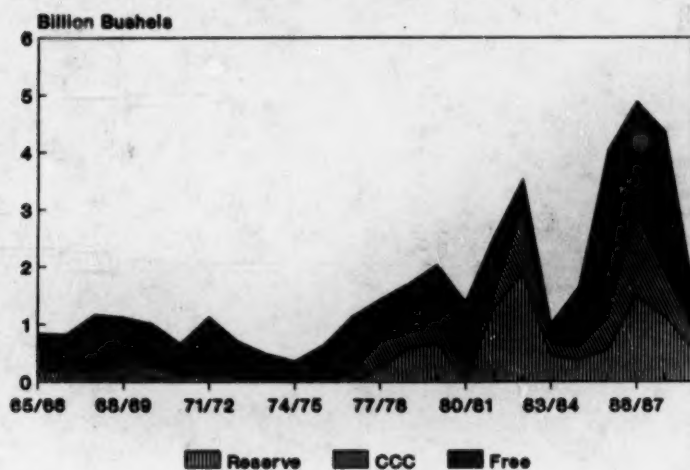
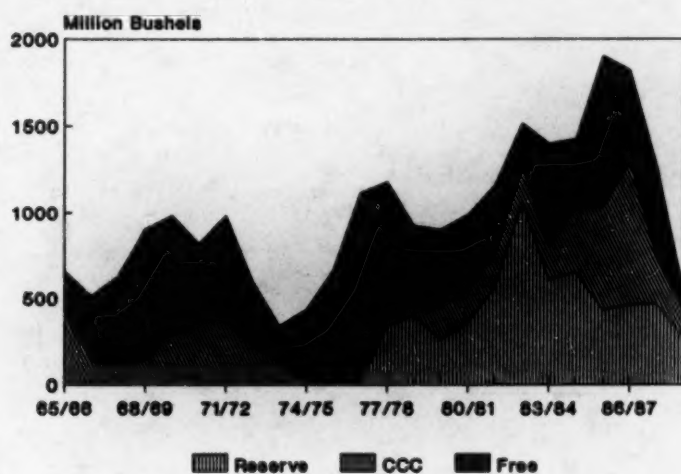


Figure 6. U.S. Ending Wheat Stocks



Alternative Means for Stabilizing
Farm Commodity Prices

Peter G. Helmberger
Professor of Agricultural Economics
University of Wisconsin-Madison

Testimony prepared for hearings of the Subcommittee on
Wheat, Soybeans, and Feedgrains, Committee on Agriculture,
U.S. House of Representatives, Washington, D.C., September 26, 1989.

This paper considers two major questions. First, is there a need for government intervention in farm commodity markets, for grain and soybeans, particularly, in order to stabilize prices and other dimensions of market performance? In the first section of this paper I argue that the case for intervention is not strong. The second question is what is the most efficient means for stabilizing farm commodity markets in terms of government cost? The second and major section of this paper reports research results which suggest that subsidizing private storage, with few government constraints placed on private decision-making, is the most effective way to stabilize farm commodity prices.

It is important to emphasize at the outset, however, that at issue in what follows is market instability caused by the vagaries of weather. More particularly, I am not here concerned with cycles in farm prosperity that may last several years and reflect persistent trends in demand or technological development. Also my concern in what follows is the efficient management of commodity stocks, not with using stocks policy to elevate farm prices and incomes. Surely the nation's experience over the last half-century is sufficient to show the folly of using a stocks policy to elevate farm prices above market clearing levels as a means of elevating farm income.

1. The Uneasy Case for Price Stabilization Programs

Since this paper centers on the efficient management of the nation's granary of farm commodities, it seems appropriate to begin by considering what efficiency means in this context. In broad terms the idea, of course, is to carry stocks forward from periods of abundance to periods of scarcity. Economic analysis adds specificity to this rather vague proposition. More

particularly, it is efficient to carry forward an additional ton of wheat, say, from one period to the next if the price expected to prevail in the next period exceeds the current price plus the carrying charge, where the latter consists of both the cost of storage and the forgone interest on the invested funds. Subject to qualifications noted below, it is not efficient to carry forward a ton of wheat if the current price plus the carrying charge exceeds the expected price. Clearly, prices are here taken as the measure of the use-value of wheat at two different points in time. (We here assume that the demand for pipeline stocks is perfectly inelastic.)

Economic theory together with scattered bits of evidence indicate that, on the above definition of efficiency, competitive markets can be relied upon to achieve efficient storage and, what is the other side of the coin, efficient commodity pricing through time. High expected prices relative to current prices encourage the diversion of available supplies from current consumption to stocks and future consumption. Increasing the level of stocks at the expense of current consumption tends to increase the current price and to lower the expected price. Under competitive conditions the movement of commodities to stocks continues up to the point where the expected price just equals the current price plus the carrying charge. When this condition obtains the expected pure profit from the speculative holding of stocks disappears.

Competitive storage surely tends to stabilize markets but does it stabilize markets enough? There are few forms of government intervention in the farm sector that elicit support as widespread as do programs intended to stabilize farm commodity prices. Writers often cite the extreme volatility of farm prices as evidence that farm markets tend to be unstable. The

argument is frequently made that price variation is excessive and that government intervention is required to bring more stability to the market. Presumably, price stabilization is not an end in itself, however, and it is natural to inquire why price volatility, even extreme volatility, is inimical to the public interest.

Although not always convincing, many reasons have been given in support of the view that farm price stabilization programs can be used to serve the public interest. First, although farm production may be inherently unstable, subject to the vagaries of weather, locusts, and such, the needs of people for food are remarkably stable. Food production is often discontinuous over time, as in the case of major field crops with harvests occurring once a year. Desired food consumption, on the other hand, is continuous and stable, with three square meals being the order of the day. It is thus perfectly clear that food storage is an economic activity of vital importance. Storing food in periods of plenty for consumption in periods of scarcity stabilizes both consumption and price.

A second reason why price stabilization programs are often supported is the belief that wide swings in prices are often associated with wide swings in farm income. The idea here is that, other things being equal, such as average income, farmers would prefer stable as opposed to unstable incomes. Capital markets could, of course, allow farmers to enjoy a stable flow of consumption over time even though incomes bounce about, but capital markets are often poorly developed and imperfect.

One must be careful, however, in supposing that programs that stabilize price also stabilize farm income. Much depends on the source of instability. Farm prices and incomes might move together in lock-step fashion because of

cyclic changes in exchange rates or in national income. In such cases it may be true that price stabilization programs stabilize farm income. If, on the other hand, price instability is caused mainly by sharp changes in crop yields, then it is entirely possible that programs that stabilize prices destabilize farm income.

Consider the following hypothetical example. The harvest of an exotic wild mushroom is unstable because of variability in rainfall. Price rises during years of low yields and falls during periods of high yields. The government proposes to stabilize price through storage operations that are very expensive, much more expensive than private storers could afford. If the demand for mushrooms has unitary elasticity then the incomes of gatherers will be perfectly stable with unstable production. Changes in prices are negatively correlated with changes in output such that the product of price and output always remains exactly the same. Price stability achieved through government storage in this situation destabilizes income.

A third reason why price stabilization might be a sensible government objective pertains to marketing costs. Marketing margins for farm output might be a good deal lower if the flow of farm output from production and storage through the marketing channel is regular and stable so that processing and distributing plants operate at full capacity day in and day out. The feeding of livestock may, from this point of view, also be considered as a means for marketing feedgrains and high-protein meals. Periods of idle capacity and worker lay-offs alternating with periods of overtime and multiple shifts are not conducive to low marketing costs. It might also be inefficient and risky for processing firms to undertake the

storage necessary to assure the continuity of their operations. Storage might more efficiently be carried out by specialized firms.

As a final reason why governments might seek to stabilize farm prices, consider the effects of risk on farm production. Often farmers commit inputs to crop production uncertain as to the weather and uncertain as to the price at harvest time. Risk may be costly in that farmers would be willing to pay to avoid it if given the opportunity to do so. A stabilization program that decreases the riskiness of production in effect decreases the cost of production, encouraging farmers to expand output. The question remains, however, whether a program that stabilizes price stabilizes farm income as well, thus making farm production less risky.

Although the above reasons in favor of commodity market stabilization are plausible and have been given the stamp of approval by many policy analysts, the fact remains that the costs to society of market instability have not been carefully measured. We do not know that such costs are really important. Are they worth worrying about? It is of interest to note in this connection that in the United States, as opposed to the centralized economies of the Soviet Union and some of its satellite nations, we rely heavily on a market system to carry forward from one period to the next a bewildering array of stocks and inventories with little or no direction from the Federal government. Included in these stocks are food commodities such as processed fruits and vegetables and, arguably, soybeans. I am not aware of studies that show the storage markets for these commodities are not performing in a satisfactory manner. Also worth noting is that prior to the late 1920s, our nation relied on the market system to determine stock levels and prices for the very commodities of interest to this Committee, with little direction

from the Federal government. Again, I am not aware of empirical researches suggesting that inadequate stocks were on average carried over from one year to the next. On the contrary, in a study of U.S. wheat stocks over a 41 year period prior to 1930, Holbrook Working concluded that the wheat market on average carried stocks that were too large in the sense that the returns to resources invested in the speculative holding of wheat stocks were negative.

Finally, there is no guarantee that government intervention would improve the performance of farm markets. Stabilization programs might bring greater stability to markets than is optimal. Government operated buffer stocks schemes might be mismanaged. Building up stocks is politically popular. Disgorging is not. The build-up of stocks in the early 1980s, largely through the operation of the Farmer Owned Reserve, followed by the massive land diversion of 1983 is hardly a reassuring bit of evidence.

2. Interyear Storage of Field Crops With and Without Government Intervention

In this section we first consider a model of competitive pricing and interyear storage of field crops in which the source of market instability is the variation in random yields. We then analyze the effects of four alternative government programs aimed at market stabilization.

Competitive Pricing and Storage

Consider the market for a field crop. Quantity demanded for consumption Q_t is a downward sloping function of price P_t :

$$(1) \quad Q_t = D(P_t),$$

where the subscript t indicates the crop year or period. Acreage planted in period t is an upward sloping function of the expected price at harvest time, in period $t+1$:

$$(2) \quad A_t = S(E_t P_{t+1}).$$

This function assumes that farmers make their acreage planting decisions on the basis of the price they expect will prevail when they harvest their crops in period $t+1$. The price expectations are rational in that growers understand the economic system and take full advantage of all the relevant information available to them when the expectations are formed. The crop is planted in period t but the yield depends on subsequent weather. Therefore, production equals acreage planted the previous year A_{t-1} times current random yield per acre Y_t . That is:

$$(3) \quad H_t = A_{t-1} Y_t.$$

By definition,

$$(4) \quad H_t + I_{t-1} = Q_t + I_t,$$

where, as before, I_t is the carryout from one crop period to the next.

Storage is carried out by arbitrageurs. We assume that keen competition does not allow expected profits from arbitrage to be positive and that zero storage is possible. In broad terms, we might expect that in periods of bountiful harvests the carryouts would be positive. In periods of small

harvests due to drought or whatever, nothing would be stored for future consumption. The arbitrage condition is given by:

$$(5) \quad E_t P_{t+1} \setminus P_t (1+i) + K.$$

where K equals annual storage cost paid at the end of period t and i equals the annual rate of interest. If $E_t P_{t+1} < P_t (1+i) + K$, as might happen in periods of small harvests, nothing is committed to storage by arbitrageurs and $I_t = 0$. If expected returns from arbitrage are normal, then $I_t > 0$ and $E_t P_{t+1} = P_t (1+i) + K$. (This equality might also hold as a special case with $I_t = 0$.)

We now take stock of our modeling effort thus far. Either the inequality or the equality of condition (5) must hold. If the former holds, we have but four equations, (1) through (4), with which to solve for the five unknowns Q_t , P_t , A_t , H_t , and $E_t P_{t+1}$. In this case $I_t = 0$. (Notice that H_t is an endogenous random variable since it depends on random current yield Y_t and lagged acreage planted.) If, on the other hand, the equality of (5) holds, then I_t need not and likely will not equal zero and we have five equations with which to solve for six unknowns. Clearly, the model is incomplete as it stands.

To close the model we assert that:

$$(6) \quad E_t P_{t+1} = f_t(I_t, A_t).$$

A full and rigorous justification of (6) will not be given here; the reader is referred to the references at the end of the paper for that. It is

plausible to suppose, however, that the price arbitrageurs and farmers expect will prevail in the next period is sensitive to the acreage planted in the current period together with the amount of the carryout. Increases in planted acreage lower expected future prices. Increases in the carryout have a similar effect. It is also difficult to imagine other variables that would affect expected prices, unless we allow for exogenous variables that shift, for example, the demand for consumption. In what follows, all such shift variables are held constant.

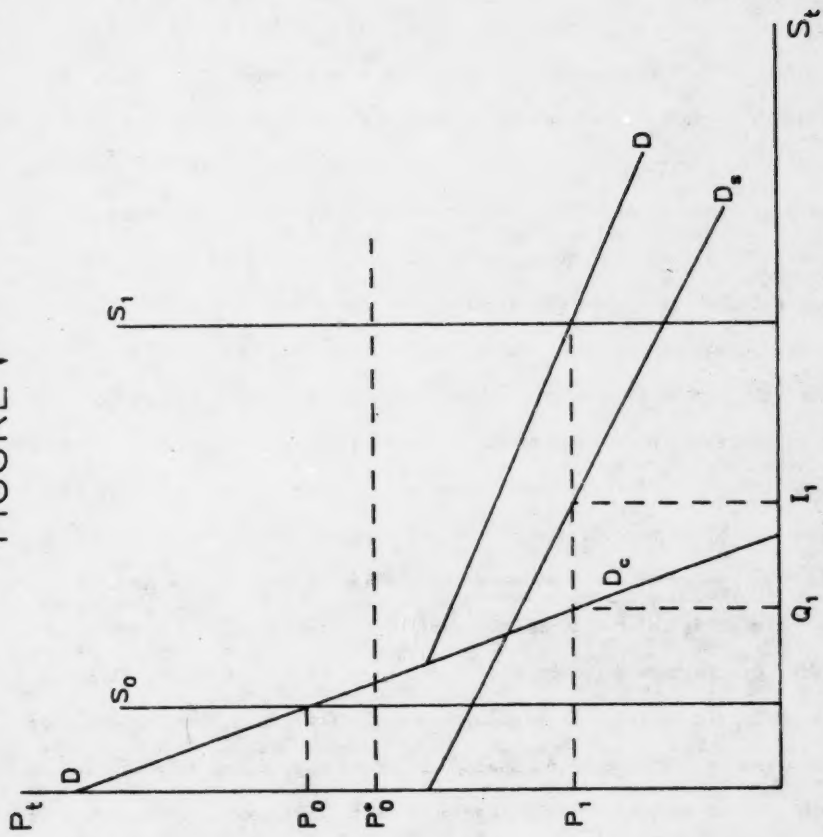
In the analysis given below, computational rational expectations modeling is used to estimate equation (6) and similar equations. With an estimate of equation (6) for period t , the current demand for storage can be estimated as well. The right-hand side of (6) is substituted for the left-hand side of equation (5). The resulting equation may then be rewritten with P_t expressed as the dependent variable as follows:

$$(7) \quad P_t \geq \frac{f_t(I_t, A_t) - K}{1+i}$$

The demand for storage is defined for all prices such that condition (7) holds as an equality.

The resulting model of pricing and storage is given a graphical representation in figure 1. We make the simplifying assumption that acreage is fixed either by nature or, perhaps, a government program. (Alternatively, we could interpret the demand for storage as a general equilibrium function that takes into account the relationship between A_t and I_t obtained by substituting the function f_t from (6) for $E_t P_{t+1}$ in (2).) The demands for

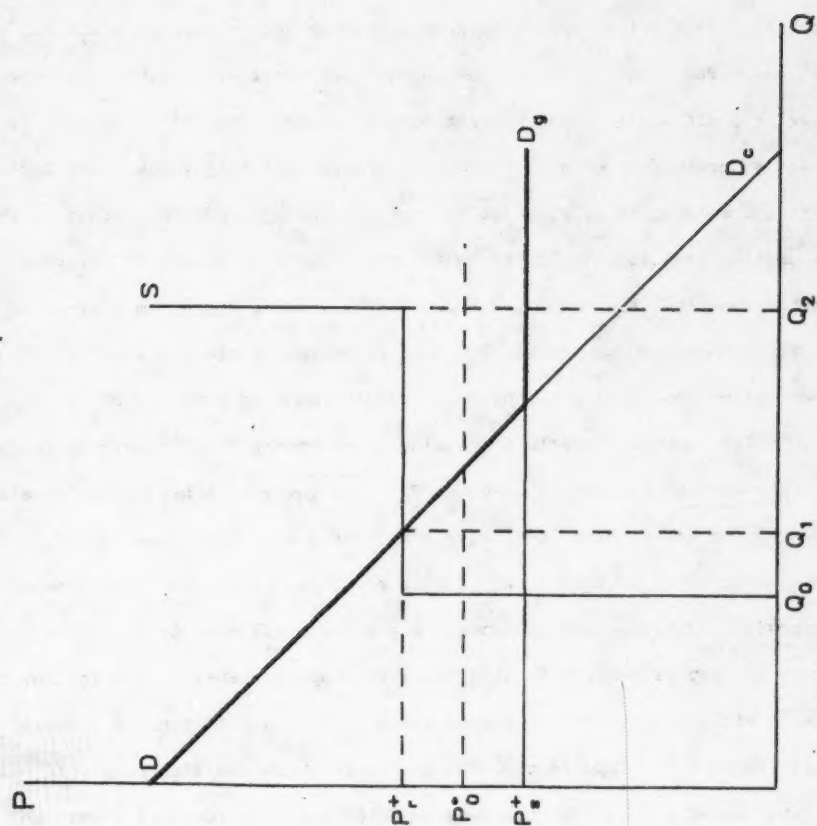
FIGURE 1



consumption and storage in the current period t are given by DD_c and D_s , respectively. Total demand is given by DD . Available supply S equals the sum of the carryout from the previous period I_{t-1} , which might equal zero, plus the current harvest $H_t = A_{t-1} Y_t$. If, because of a drought, say, S is very small, equaling S_0 , then price equals P_0 and the entire supply is consumed. With a bountiful crop, the supply is given by S_1 . Price then equals P_1 ; Q_1 is consumed and I_1 is stored for future consumption.

At this juncture we pose the following question. What difference would it make in terms of market performance if competitive storage were not allowed? To answer this question we rely upon a study of the U.S. soybean market by Helmlberger and Akinyosoye. They found that the steady-state expected values for soybean production, consumption, and price were essentially the same in a no-storage regime as in a perfectly competitive storage regime. In comparison with a no-storage regime, however, competitive storage lowered the steady-state variance of price and the variance of consumption by 66 percent and 57 percent, respectively. The variance of production rose somewhat. Another interesting finding of the Helmlberger-Akinyosoye study is that although competitive storage is effective in avoiding precipitous drops in price, it is not effective in avoiding occasional price hikes that are substantial. The reason for this is that storage can be relied upon to keep prices from sagging to very low levels. With no stocks on hand, nothing can be done to forestall a sharp price rise due to crop failure. What this means is that society cannot count on private storage to avoid sharp price hikes and, particularly in the context of a developing nation, famine.

FIGURE 2



Price Stabilization Programs

Four forms of government intervention are now considered as alternative means for increasing market stability under otherwise competitive conditions. The first is a price support program involving both a support price and a release level. Various levels of support are considered with the release level P_r^+ set equal to 120 percent of the support level P_s^+ . As will be seen shortly, one effect of a price support program, if only the support level is set high enough, is to wipe out the private storage industry. This is the assumption made for simplicity in figure 2, where no demand for private stocks appears. As in the previous chapter a support program gives rise to a government demand for stocks, D_g , that is perfectly elastic at P_s^+ . Consumption demand is given by DD_c . Total demand is given by DD_g .

Price support operations may also alter post-harvest supply as in figure 2. The current harvest is given by Q_0 . The government held stock equals $(Q_2 - Q_0)$ and the release level equals P_r^+ . For any price less than P_r^+ , the government stock is held back. (It is possible, of course, that depending on economic conditions, the government might add still more to its stock in order to keep price from falling below the support level.) The government stands willing to throw its entire stock on the market if price reaches or rises above P_r^+ . Importantly, the manner in which the step-supply function S is changed as a result of the program depends on the level of government stocks. Without stocks, as might readily occur in long periods of drought, the supply curve might not be affected at all, being perfectly inelastic and consisting solely of current harvest. In figure 2, the government is able to prevent price from rising above P_r^+ through diminishing its stock from $(Q_2 - Q_0)$ to $(Q_2 - Q_1)$. Market price equals P_r^+ and consumption equals Q_1 .

The competitive market model given above must be modified in order to allow for a price support program. Importantly, the expectation of P_{t+1} as formed in period t becomes a function of A_t , I_t , and G_t where the latter equals government stocks. Both private and government stocks must be included as independent variables because private and government behavior differ in significant respects.

A second form of government intervention is a direct payment program. Suppose the target price is given by P_o^* in figure 1. If supply is given by S_o , market price exceeds the target and no payments are made. If supply is given by S_1 , the direct payment per unit equals $P_o^* - P_1$. A direct payment program in this case drives a wedge between the market price and the effective price received by farmers. Within a dynamic stochastic model it is necessary to estimate two expected price functions, one for the market price and another for the effective price received by farmers. In what follows we will let W_t equal the market price and P_t equal the farm price. When direct payments do not apply, $P_t = W_t$.

A third form of government intervention involves both direct payments and price support operations. Let the target price be given by P_o^* in figure 2. Because the market price equals P_t^+ , no direct payment is made. If the step supply function were shifted to the right by a sufficient amount, however, a low market price would entail direct payments. Notice, however, that if $P_o^* < P_g^+$, then the direct payment program becomes ineffective.

A third form of government intervention involves subsidies to the private storage industry, subsidies that lower the effective carrying cost for commodity stored from one year to the next. In what follows we will be concerned with a subsidy program that lowers both the cost of storage K and

the rate of interest i paid for loans for holding stocks. It may be supposed that arbitrageurs are made eligible for receiving low-interest loans from the government.

To summarize, we postulate a competitive market for a field crop. In any year t , harvest reflects current yield together with the planted acreage decisions of the previous year. At harvest time, the output must be allocated between current consumption and storage for future consumption. Decisions regarding planted acreage and stocks are based on the price that is expected to prevail in the future. We then imagine that a government program is begun after harvest is completed and that the program is continued for all future periods. We expect the system to achieve a steady-state solution, eventually, in which the expected values and the variances of all the endogenous variables, formed when the government intervention is begun, remain constant from one year to the next. The question becomes how do price stabilization programs, as identified above, affect the steady-state performance of commodity markets? To answer this question we rely on a quantitative study by Glauber, Helmberger, and Miranda (GHM). We first present their quantitative model and then summarize their main results.

The GHM model is given by:

$$\begin{aligned}
 Q_t &= 5.18 P_t^{-0.61}, \\
 Q_t + G_t + I_t &= H_t + I_{t-1} + G_{t-1}, \\
 (8) \quad A_t &= 13.0 (E_t P_{t+1})^{0.89}, \\
 H_t &= A_{t-1} Y_t, \\
 E_t P_{t+1} &\searrow 1.09 P_t + \$0.36,
 \end{aligned}$$

where Q_t equals the quantity of U.S. soybeans demanded for domestic consumption and export, measured in billions of bushels; P_t equals dollars per bushel; I_t and G_t are private and government stocks, respectively; A_t equals acreage planted, in millions of acres; and Y_t equals yield per acre. Yield is assumed to be a random variable with mean equal to 29.84 bushels per acre. (The probability distribution for yield was assumed to be log-normal with a coefficient of variation equal to 17.43 percent.) Computational rational expectations modeling was used to estimate the expected price functions for the competitive case as well as for cases involving government programs. Simulation analysis was used to generate large random samples of all endogenous variables for each year after a program was begun.

Tables 1, 2, and 3 are taken from the GHM study. Table 1 gives for various combinations of support prices and price targets the steady-state mean farm price ($\bar{P}$), including direct payments, if any; mean market price ($\bar{W}$); and the steady-state coefficients of variation of farm price (CVP), of market price (CVW), and of producer quasi-rent (CVQ). Quasi-rent equals producer revenue minus the compounded cost of production. (The latter is measured by the area under the expected acreage supply curve and to the left of acreage planted, all times expected yield.) The estimates given for zero support and target prices are for the purely competitive regime, which allows for competitive storage. The remaining estimates in the first row are for a pure direct payment program. Those given along the diagonal are for a pure price support program with the release price equaling 120 percent of the support price. Without direct payments, market and farm prices are the same, as noted previously. Other estimates are for the buffer-payment program that

involves both direct payments and price supports. A support price above the target price renders the latter irrelevant, which accounts for the triangular array of estimates. The cells marked with asterisks identify policies that lead to explosive government stocks such that the expected value of government stocks tends to infinity.

Table 1 contains several interesting results. First, a \$5.25 price support level, well below the mean competitive price of \$5.71, causes mean government stocks to explode. With price support operations in place increases in deficiency payments can also give rise to explosive stocks through encouraging production. In what follows we will be concerned with nonexplosive policies unless otherwise noted.

Second, for any support price, the higher the target price the higher the mean farm price and the lower the mean market price. In the present model, price support operations lower mean farm price in steady-state but the important point is that the effect is small. Mean price is not affected very much because whatever is withheld from consumption in one period is returned to the market later on. The "surplus" is not dumped in secondary markets or destroyed.

Third, price support and direct payment programs both stabilize the effective farm price but for a given price floor, the former is considerably more effective than the latter. For a \$5.00 price target, for example, direct payments lower CVP from the competitive value 19.4 percent to 17.4 percent; a \$5.00 price support lowers CVP to 12.0 percent. The combination of price supports and direct payments can be quite effective in lowering price variability without at the same time causing government stocks to explode.

Fourth, a pure direct payment program destabilizes market price slightly. This is important because it is often argued that market stability is conducive to the efficiency of processing and marketing operations. More efficient marketing becomes a possible justification for market stabilization programs. The need for stabilizing the human consumption of food should also be kept in mind. Because direct payment programs stabilize effective farm prices without stabilizing other dimensions of market performance, they should probably not be viewed as a market stabilization programs.

Fifth, table 1 shows that, although the programs under consideration stabilize farm price, they destabilize quasi-rent. For any price support, raising the target price causes the coefficient of variation of quasi-rent (CVQ) to rise. For relatively low targets, \$4.75 or less, raising the price support has little effect on CVQ. For higher targets, however, raising the support level causes CVQ to rise, the more so the higher the target. Thus, of those programs considered, the one involving a price support of \$4.50 and a target of \$6.00 stabilizes price the most; it also destabilizes quasi-rent the most. The reader is referred to the references at the end of the chapter for an explanation of these results. We merely note here that under competitive conditions the relationship between yield and price is negative. To some extent, a decrease in yields under competitive conditions is offset, in terms of stabilizing total revenue, by higher prices. The farm programs of interest here tend to undermine this negative correlation.

Finally, several results from the GHM study, not apparent from table 1, are briefly summarized. Price supports destabilized production slightly but the variability of consumption was lowered substantially. In fact, the percentage reductions in the variability of consumption were roughly the same

as for price. Direct payments, on the other hand, stabilized production and destabilized consumption, although in both instances the effects were small. Although direct payments lowered slightly steady-state mean private storage, the effect of price supports was both negative and substantial. A pure price support program with the support level \$4.75, well below the mean competitive price, lowered mean private storage by 77 percent. Price variation creates the potential for making profit through storage. Limiting price variation through price support operations destroys that potential.

How do price support and direct payments programs affect consumers, producers, and taxpayers? Again drawing upon the GHM study, we note that table 2 gives their estimates of average annual consumer and producer gains (losses), average annual governmental expenditures, and average annual deadweight losses. The measure of consumer gain (loss) is the expected change in Marshallian consumer surplus caused by the introduction of a farm program into a competitive market. The measure of producer gain (loss) is the expected change in quasi-rent. Deadweight loss equals the sum of producer and consumer gains (losses) minus government expenditures.

In order to understand further the estimates given in table 2, it is important to consider the dynamics of government programs. In the early years of program operation a price support program tends to remove output from the market. Mean annual prices rise above competitive levels, benefiting producers and hurting consumers and taxpayers. In order to capture these dynamic effects the discounted sum of mean annual gains (losses) over the first 50 years of program operation were estimated and the amortized average gains (losses) per year were then calculated. (The amortized average equals the constant amount of money that would need be

invested in a savings account each year such that the present value of this flow of investments would exactly equal the discounted flow of program benefits over 50 years of program operation.) The same procedure was used for programs involving direct payments, although in this case the system was found to move very quickly, in a few years, to the steady-state solution.

Again focusing on nonexplosive policies, for any price support, the average annual consumer gain, producer gain, government expenditure, and deadweight loss rise with increases in the target price (see table 2). On the other hand, holding the target price constant and allowing the support price to increase causes both the average consumer and producer gains to diminish. Although average government expenditures also decline, the deadweight loss rises. The consumer losses and producer gains associated with a pure price support program are caused to a large extent by the high prices in the early years of program operation, when mean government stocks are on the rise. The gains to producers are relatively small, however. Consider a pure price support program with the support level set equal to \$5.00. The producer gain equals 2.3 percent of the competitive mean quasi-rent.

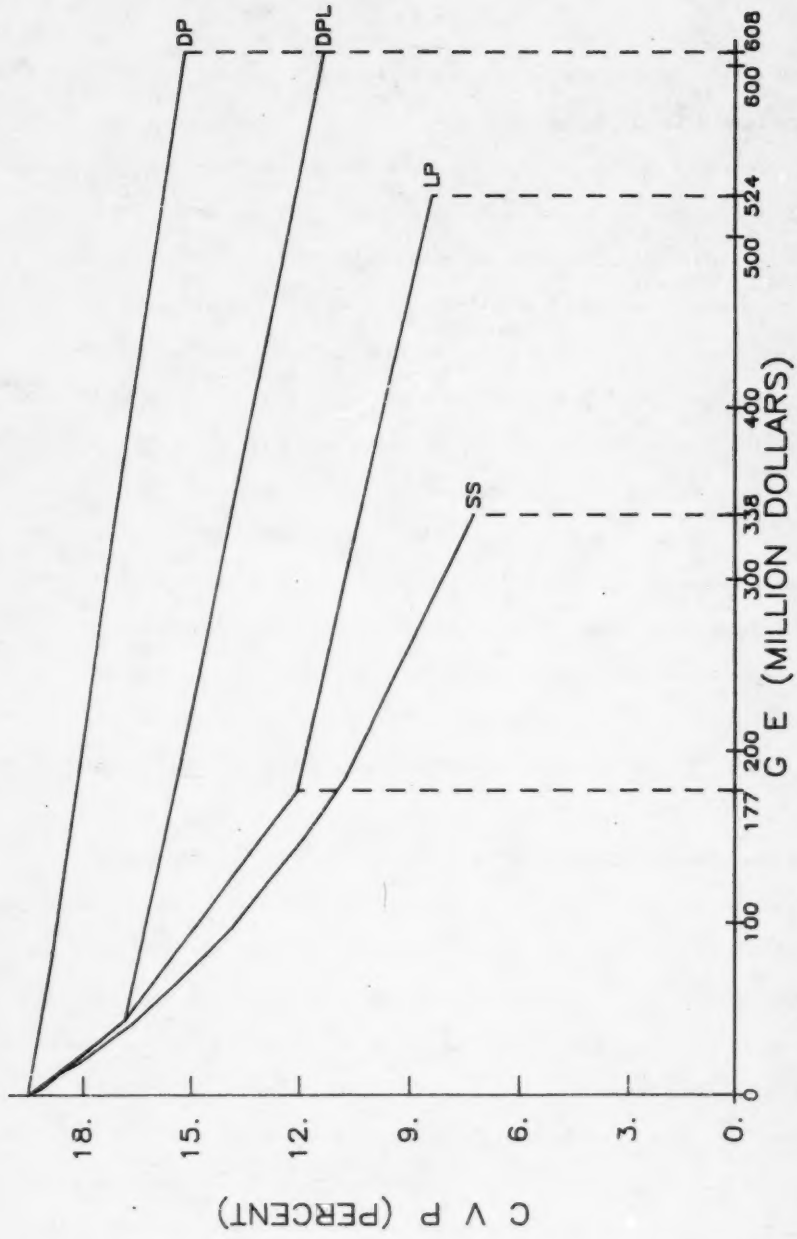
With few exceptions, the effects of programs that subsidize private storage operations are qualitatively similar to those of a nonexplosive price support program (see table 3). Lowering the private carrying charge through subsidized credit and storage payments causes both mean farm price and price variation to fall. Quasi-rent is destabilized. Producers gain at the expense of consumers and taxpayers. In contrast to price supports, however, mean private stocks increase. A storage subsidy program that reduces the private rate of interest to 2.2 percent, for example, eliminating entirely

other carrying charges, causes mean private stocks to increase by 717 percent, from 65 million to 466 million bushels.

The estimated program effects given above raise the issue of the cost effectiveness of various programs in achieving government objectives. Figure 3, taken from the GHM study provides graphic relationships between the coefficient of variation of price (CVP) and annual government expenditure (GE) for four stabilization programs. The graphs for storage subsidies, pure price supports, pure direct payments, and a program involving both price supports and direct payments are labelled SS, LP, DP, and DPL, respectively. The storage subsidy program involves subsidized storage as well as subsidized interest rates. The graph for the storage subsidy program is truncated at \$338 million because this level of expenditure is associated with the near-zero carrying charge given in table 3. Similarly, the graph for a pure price support program is truncated at \$524 million, the highest expenditure for this program given in table 2. The buffer-payment program of interest here involves a \$4.75 price support. The graphs for a pure direct payment program and a buffer-payment program are truncated at \$608 million in order to facilitate comparison with the other programs.

A storage subsidy program is the cheapest way of buying price stability. For an expenditure of \$338 million, for example, CVP can be lowered from 19.5 percent, the competitive level, to 7.2 percent, yielding a reduction of 12.3 percentage points. The corresponding reductions for the price support, buffer-payment and direct payment programs are, respectively, 9.2 percent, 5.7 percent, and 2.5 percent. Of the nonexplosive programs considered, however, the one involving a support price and target of \$4.50 and \$6.00,

FIGURE 3



respectively, yields the lowest CVP, 4.8 percent (tables 1 and 2). It also costs nearly \$2 billion annually.

According to the GHM study, whether government expenditure or deadweight loss is taken as the measure of program cost, storage subsidies are more efficient than price supports in stabilizing market price. The likely reason for this result is the flexibility of a subsidized market mechanism in comparison with the price support mechanism analyzed here. Consider, for example, a period of bountiful years and growing stocks. Given storage subsidies, the minimum price that will induce still further growth in stocks declines whereas the support price remains constant. Stocks may be drawn down with storage subsidies in operation even though price is less than the fixed release price. For given levels of either government expenditure or deadweight loss, steady-state mean stocks are much greater with price supports than under storage subsidies. Consider annual government expenditures equal to \$177 million, for example. Mean steady-state stocks equal 546 million bushels under price supports and 261 million bushels under storage subsidies.

The above discussion calls attention to several suggestions for increasing the efficiency of government buffer stock schemes. Reflecting a multitude of earlier suggestions, Rausser and Foster have recently argued for the following (p. 20): "On the basis of a specified price level, the Commodity Credit Corporation (CCC) would buy or sell a certain amount of commodity for every one percent decrease or increase in the market price around this specified level. The specified price would be linked to the level of stocks--the larger the supplies, the lower the targeted price." It remains to be seen, however, whether the Rausser-Foster scheme or any other

government operated buffer stock scheme would be as efficient as a simple program of private storage subsidies. Importantly, in a world of structural change storage subsidies obviate the need for the government to change from time to time the "specified price level" and its relationship with the level of stocks.

REFERENCES

- Cochrane, Willard W. and Yigal Danin. Reserve Stock Grain Models, the World and the United States, 1975-85. Minn. Agr. Exp. Sta. Tech. Bul. 305, University of Minnesota, 1976.
- Gardner, Bruce L. Optimal Stockpiling of Grain. Lexington: Lexington Books, 1979.
- Glauber, Joseph, Mark Lowry, Mario Miranda, and Peter Helmberger. Theory of Pricing and Storage of Field Crops with an Application to Soybeans. Wis. Agr. Exp. Sta. Bul. R3421, University of Wisconsin-Madison, January, 1988.
- Glauber, Joseph, Peter Helmberger, and Mario Miranda, "Four Approaches to Commodity Market Stabilization: A Comparative Analysis," American Journal of Agricultural Economics 71(1989):326-337.
- Gustafson, R.L. Carryover Levels for Grain: A Method for Determining Amounts that are Optimal Under Specified Conditions. U.S.D.A., Tech. Bul. 1178, 1958.

- Helmberger, Peter and Vincent Akinyosoye. "Competitive Pricing and Storage Under Uncertainty with an Application to the U.S. Soybean Market." American Journal of Agricultural Economics 66(1984):119-130.
- Lowry, Mark, Joseph Glauber, Mario Miranda, and Peter Helmberger. "Pricing and Storage of Field Crops: A Quarterly Model Applied to Soybeans." American Journal of Agricultural Economics 69(1987): 740-749.
- Massell, Benton F. "Some Welfare Implications of International Price Stabilization." Journal of Political Economy 78(1970):404-417.
- Miranda, Mario. "Analysis of Rational Expectation Models for Storable Commodities under Government Regulations." Ph.D. Thesis, University of Wisconsin-Madison, 1985.
- Miranda, Mario and Peter G. Helmberger. "The Effects of Price Band Buffer Stock Programs." American Economic Review 78(1988):46-58.
- Muth, J.F. "Rational Expectations and the Theory of Price Movements." Econometrica 29(1961):58-62.
- Newbery, David M. G., and Stiglitz, Joseph E. The Theory of Commodity Price Stabilization. New York: Oxford University Press, 1981.
- Peck, Anne E. "Implications of Private Storage of Grains for Buffer Stock Schemes to Stabilize Prices." Food Research Institute Studies 16(1977-78):125-40.
- Plato, Gerald and Douglas Gordon. "Dynamic Programming and the Economics of Optimal Grain Storage." Agricultural Economics Research 35(1983):10-22.
- Rausser, Gordon C. and William E. Foster. "Managing Farm Supply." Choices. Third Quarter, 1987:18-21.

- Salant, Stephen W. "The Vulnerability of Price Stabilization Schemes to Speculative Attack." Journal of Political Economy 91(1983):1-38.
- Samuelson, Paul A. "Intertemporal Price Equilibrium: A Prologue to the Theory of Speculation." The Collected Papers of Paul A. Samuelson. ed. J.E. Stiglitz, pp. 946-984. Cambridge: MIT Press, 1966.
- Smith, Adam. The Wealth of Nations. Chicago: University of Chicago Press, 1976. (Originally published in 1776.)
- Waugh, Frederick V. "Does the Consumer Gain from Price Instability?" Quarterly Journal of Economics 58(1944):602-614.
- Working, Holbrook. "Financial Results of Speculative Holding of Wheat", Wheat Studies of the Food Research Institute, Vol. VII, No. 8, July, 1931.
- Working, Holbrook. "The Theory of the Price of Storage." American Economic Review 39(1949):1254-62.
- Wright, Brian D. and Jeffrey C. Williams. "The Economic Role of Commodity Storage." Economic Journal 92(1982):596-616.

Table 1. Estimates of Steady-State Values for Mean Farm Price ($\bar{P}$), Mean Market Price ($\bar{W}$), and for Coefficients of Variation of Farm Price (CVP), of Market Price (CVW), and of Producer Quasi-rent (CVQ).^{a/}

Support Price	Target Price							
	0.00	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
0.00 $\bar{P}$	5.71	5.72	5.73	5.77	5.84	5.92	6.04	6.18
$\bar{W}$	5.71	5.71	5.70	5.65	5.55	5.44	5.30	5.13
CVP	19.4	19.4	18.8	17.4	15.0	12.5	9.90	7.2
CVW	19.5	19.5	19.6	19.7	19.9	20.2	20.5	20.8
CVQ	12.7	12.8	14.0	15.5	17.0	19.5	22.3	25.0
4.50 $\bar{P}$		5.71	5.72	5.75	5.80	5.87	5.95	6.07
$\bar{W}$		5.71	5.69	5.65	5.57	5.48	5.34	5.15
CVP		19.1	18.4	16.8	14.6	12.0	8.6	4.8
CVW		19.1	18.9	18.8	18.5	17.7	16.2	13.2
CVQ		12.7	13.7	15.6	17.9	21.2	24.8	28.3
4.75 $\bar{P}$			5.70	5.72	5.76	5.81	5.87	6.00*
$\bar{W}$			5.70	5.66	5.59	5.52	5.41	5.24
CVP			16.8	15.2	12.8	10.0	6.7	0.0
CVW			16.8	16.4	15.6	14.4	12.4	8.2
CVQ			13.8	15.8	18.6	22.6	27.2	30.5
5.00 $\bar{P}$				5.67	5.71	5.74*	5.87*	6.00*
$\bar{W}$				5.67	5.62	5.54	5.50	5.44
CVP				12.0	9.1	4.9	2.1	0.0
CVW				12.0	10.7	8.6	8.3	8.3
CVQ				15.9	19.3	23.7	27.4	30.5
5.25 $\bar{P}$					5.74*	5.82*	5.93*	6.08*
$\bar{W}$					5.74	5.70	5.66	5.62
CVP					8.3	6.3	4.1	2.2
CVW					8.3	8.3	8.2	8.1
CVQ					17.6	21.2	24.6	27.7

^{a/} Cells marked with asterisks indicate policies that give rise to explosive mean government stocks. Price is in dollars per bushel. Coefficients of variation are in percentages.

Table 2. Average Consumer Gain (CS), Average Producer Gain (PS), Average Government Expenditure (GE), and Deadweight Loss (DL).^{a/}

Support Price	Target Price						
	0.00	4.50	4.75	5.00	5.25	5.50	5.75 6.00
-millions of dollars-							
0.00 CS	0	3	30	122	279	475	719 1,012
PS	0	7	48	148	307	506	750 1,038
GE	0	10	80	279	608	1,024	1,547 2,180
DL	0	0	2	9	22	43	78 130
4.50 CS		-6	23	98	221	368	573 814
PS		7	43	136	275	444	665 947
GE		4	70	245	521	859	1,335 1,974
DL		2	4	11	24	47	98 212
4.75 CS			-24	40	134	249	396 599*
PS			41	119	246	396	593 901
GE			44	195	436	734	1,146 1,865
DL			26	37	56	88	157 365
5.00 CS				-73	0	91*	195* 313*
PS				111	235	393	600 869
GE				177	420	748	1,199 1,810
DL				139	185	264	403 628
5.25 CS					-216*	-143*	-64* 26*
PS					265	434	659 941
GE					524	901	1,395 2,053
DL					474	610	801 1,086

^{a/} Cells marked with asterisks indicate policies that give rise to explosive government stocks. Welfare measures are calculated as the amortized average over the first 50 years of program operation.

Table 3.3. Estimates of Steady-State Values for Mean Farm Price $\bar{P}$;

Coefficients of Variation of Farm Price (CVP) and of Quasi-Rent (CVQ); Average Annual Consumer Benefits (CS), Producers Benefits (PS), Government Outlays (GE), and Deadweight Losses (DL) for Various Storage Subsidy Programs.^{a/}

Storage Subsidy (Cents per Bushel)	0.04	0.12	0.20	0.28	0.36
Interest Subsidy ^{b/}	0.01	0.02	0.04	0.06	0.07
$\bar{P}$	5.71	5.70	5.69	5.67	5.66
CVP	19.0	17.7	15.4	11.8	7.2
CVQ	12.8	13.0	14.5	18.5	24.5
CS	-5.7	-16.2	-37.1	-75.1	-147.5
PS	13.2	36.7	81.8	156.2	272.2
GE	8.1	25.2	64.8	150.4	337.8
DL	0.6	4.6	20.1	69.3	213.1

^{a/} Price is dollars per bushel. Coefficients of variations are in percentages. Average annual gains (losses) are amortized over the first 50 years of program operation. Welfare measures are in millions of dollars.

^{b/} If the interest subsidy equals 0.01, for example, the real rate of interest paid on a storage loan is 1 percent less than the commercial rate.

FORMULATION OF THE 1990 FARM BILL

(Grain Reserve Policy and Programs)

THURSDAY, OCTOBER 12, 1989

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WHEAT, SOYBEANS, AND FEED GRAINS,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:35 a.m., in room 1302, Longworth House Office Building, Hon. Dan Glickman (chairman of the subcommittee) presiding.

Present: Representatives Johnson, English, Volkmer, Penny, Nagle, Sarpalius, Jontz, Dyson, Long, Marlenee, Roberts, Emerson, Smith, Schuette, and Grandy.

Also present: Representative E (Kika) de la Garza, chairman of the committee.

Staff present: Vernie Hubert, associate counsel; John E. Hogan, minority counsel; Alice Devine, minority associate counsel; Glenda L. Temple, clerk; Greg Frazier, Anne C. Keys, James A. Davis, and Cliff Humphrey.

OPENING STATEMENT OF HON. DAN GLICKMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF KANSAS

Mr. GLICKMAN. The subcommittee will come to order. We now have a requisite number of members.

This hearing is the second hearing this subcommittee has held to review the issues surrounding grain reserves. Today, we have our colleague, Congressman Byron Dorgan, from North Dakota, together with several witnesses from the consumer, grain trade, and producer sectors who will give their perspectives on domestic as well as international grain reserves.

I think it is important, while examining grain reserve policy for the 1990 farm bill, to acquire a broad understanding of how each sector in the economy and society as a whole use the existing programs. Grain reserve policy affects each of these groups quite differently, and it is important to understand this complexity in an effort to balance these interests for new legislation.

Today, I hope to hear how each of these groups views these issues to which I have addressed. These are issues the subcommittee has investigated over the past couple of years which are going to come together to form new legislation.

In doing this, I want to emphasize that, although it is imperative to meet the needs of the agricultural sector, it is also imperative to

meet food needs of U.S. citizens and other people around the world by securing food for the future.

So I am delighted to have this opportunity. Mr. Emerson, do you have any opening statements?

Mr. EMERSON No statement, Mr. Chairman.

Mr. GLICKMAN. I see our colleague Byron Dorgan is here. Byron, why don't you go ahead and sit down. I would say for the record again to all the witnesses that it is not necessary for you to read your entire statements. Sometimes I think that maybe the best way to do it is to just have the statements, and we ask questions because staff has read the statements in their entirety.

So if you wish to summarize, it really helps us, particularly since we are going to have a whole slew of rollcall votes today, one after the other. So I want to emphasize to get to the meat of what we want to talk about.

So, why don't we go ahead and begin. Byron, it is a pleasure to have you here today.

STATEMENT OF HON. BYRON L. DORGAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH DAKOTA

Mr. DORGAN Mr. Chairman, thank you very much. This is an interesting subject. I grew up in North Dakota. I have an agricultural background. I have taught economics at the college level, but have not been permanently disabled as a result of that and have still been able to analyze agricultural policy. I think, from the perspective of how it impacts and affects family farmers.

I wanted to testify today very briefly because it occurs to me something unusual is happening in the grain markets, and it may very well have to do with the treatment of grain reserves and the deliberate policy of the administration, and I would like to just at least pose some questions about that.

One would expect on the heels of 2 drought years to see diminished stocks of grain and therefore increased prices in the market for grain. That is what one would expect to happen. The lessons that we used to teach in economics are no longer accurate lessons except the fundamentals, the fundamentals of how supply/demand relationships work, and are by-and-large unchanged in the teaching of economics.

One would expect, for example, in these times to see increasing grain prices because of diminished stock. And yet, it is a curious thing that that is not happening, and we need to ask the question today in these hearings and in other forums as well why is that not happening. Is that a deliberate policy? Are things happening with the reserve, and are other things intervening to prevent the kind of upward price movement that should be occurring?

In the spring of 1988, which is the end of the 1988 marketing year, we had an 83 million bushel carryover of Durum wheat. Let me use Durum for just 1 minute. That was nearly a full harvest of Durum still in the bin from the previous summer's harvest. Farm prices for Durum reflected that plentiful supply, and No. 1 Hard Amber Durum was about \$3.10 to \$3.70 before the drought set in on the northern Great Plains.

Now, we produce around 80 percent of the Durum up in North Dakota that is produced in this country. After 2 years of drought in the principal Durum-growing region, the USDA is projecting the carryover supply for next May at half of the carryover two years ago. Local prices, however, are actually lower than they were before the drought. They are \$3.05 and \$3.50 in North Dakota today.

There are a couple of reasons for that, perhaps. One might be the Canadian imports that are flooding in and causing some price depression, but essentially that Durum prices are behaving very much like other wheat prices.

The situation with other Spring and Winter wheat has followed a very similar course. Total wheat stocks before the start of the 1988 drought year were 1.25 billion bushels. USDA projects stocks for the end of this marketing year at 494 million bushels. That amounts to only about one-fourth of a normal crop, and yet local prices for the best grain of wheat are no higher now than they were in May 1988.

There is something unusual happening. One would expect for prices to be moving upward because carryover stocks are lower.

Last weekend, I was in Central America, in Nicaragua, Honduras, Costa Rica. And they told me at the embassies that there is difficulty in getting wheat in title I Food for Peace because the CCC doesn't have the stocks or wheat available to move into title I for them. So they got a need for wheat, but can't get it at this point because CCC doesn't have the stocks.

And again, I am sitting there listening to this thinking, "Isn't this curious?" We are short of supply—at least with respect to that transaction—but the price that the farmer faces isn't responding the way the price should respond given market conditions.

What is wrong here? Why aren't prices not improving? I remember about 1 year ago when one of the Assistant Secretaries from the USDA came down here, and I wasn't on the committee, but I was in the room when he testified about releasing some wheat or not renewing some of the loans and moving some wheat to market, and he said that one of the concerns they had then was that prices were tending to strengthen more than they thought they should strengthen. So they were tending to move more wheat out in the pipeline and keep them a little lower.

That is price manipulation, and I wonder if we don't have today a similar kind of mentality manipulating prices by using the reserves to keep that pipeline full. Even though the stocks are down and even though we have been on the heels of 2 years of drought, I wonder whether at least information received by us yesterday from the ASCS and other readily available sources of information don't tell us that the USDA is using reserve grain to keep the grain pipeline full.

The supply factors that shape the market price are normally found in the field; that is, in the granary, in the pipeline, which is what allows grain to be made available immediately to those who want it.

Now, the USDA, even though the stocks are dwindling, the USDA seems to me to be making sure that the supply in the pipeline rather remains full. There is apparently less grain in the gra-

naries but as much grain in the pipeline, and the millers and the exporters aren't looking far for wheat.

Since last spring, the ASCS has said the Farmer-Owned Reserve has been largely depleted with the exception of the 18-million bushels emergency reserve. By depleted, I mean that they tell me that the food security reserve wheat, once near 150 million bushels, has all been made available for sale.

That availability apparently means that it is available to move into the pipeline to keep the pipeline full despite the fact that stocks have been down dramatically.

The question, I think, for you to ask with respect to reserves—again, let me tell you that I am not an expert in this area, but the question to ask is, why are prices not responding predictably? I asked the GAO to do some evaluation of this. Why are prices not doing what you and I would predict them to do when stocks are one-fourth of what they used to be, or half of what they used to be?

You know that prices respond on the other side. If stocks balloon, and you have an enormous supply because of bumper crops, you know that prices respond inversely to that. But it is interesting to notice that they are not responding at this point in time in a predictable way, and I think at least part of it might well be with respect to the USDA's approach to grain reserve.

I think it is predictable they would do that because they were here before your committees before saying, "We want to keep prices as low as we possible can so that we remain competitive internationally."

Let me make one final point, Mr. Chairman. I guess I am here to ask that you evaluate that, and I have made some suggestions on what kind of provisions might ought to be considered. But I want to make one other point while I am here, and the point is on Durum, and it goes off reserve just for 1 minute, but it is an important point, and I think it is necessary to make it.

The USDA has a responsibility to wade-in on our side when we are right. With respect to Durum coming in from Canada, the USDA has taken a vacation. And in fact, it has decided it is not going to keep its word that it made to us that it would fight on our side if we were flooded with exports from Canada in a way that was unfair to our producers.

The Durum that has been coming in from Canada now equals about 14 percent of our domestic market. Durum prices have collapsed. We cannot move a bushel of Durum into Canada, and yet Canada is flooding us with Durum. They are doing it with subsidized Durum, anywhere from \$.50 to \$.80 a bushel subsidy on transportation going East, coming down into the eastern pasta markets, competing with American grain that is fundamentally unfair.

And despite the fact that the Agriculture Secretary, then Trade Ambassador, said to us in writing that he would intervene to make sure that these conditions are fair, he has decided he is going to sit on his hands, and he says, "You're on your own, folks." That is another subject at issue that I hope this subcommittee will get involved in.

I am trying to get the Trade Subcommittee involved in it. In a meeting with the chairman of the Trade Subcommittee today have

met with the Secretary of Agriculture repeatedly on this. It appears they are immovable down at USDA, but that is another important issue that I would like the subcommittee to look into.

I am sorry for digressing into that subject.

[The prepared statement of Mr. Dorgan appears at the conclusion of the hearing.]

Mr. GLICKMAN. Byron, do you have any suggestions, if we were going to revise reserve policy, what we could do? I guess your point is that the reserves, in your judgment, may be used with the intention of depressing prices so as to accomplish export objectives.

Mr. DORGAN. With the intention of avoiding increased prices, I think, and I think their sense is we want price stability so that we remain competitive internationally, which is an interesting concept, especially when price stability represents a price below the cost of production. That doesn't seem to be progress to me.

Yes, I think when you take a look at reserve policy, I think you ought to try to figure out how do you tight-lock reserve grains so that if in fact the USDA is now using it to make it available for sale immediately and therefore keep the pipeline full, that they are prevented from doing that in the future if that supports a policy of preventing the upward movement of grain during short stocks or drought years. That doesn't make sense to me.

That means that there is only one side of the coin for farmers, and whenever the coin is flipped, they lose. If there is an oversupply in excess stocks, the prices are going to decrease. But if stocks dwindle because of drought or other reasons, the prices are going to be prevented from increasing because the USDA has a cheap food policy or an international cheap price.

Mr. GLICKMAN. Well, I appreciate your testimony. I think that we are going to look at that. We are also going to look at the whole issue of how Government-held stocks are used, and who is accountable to what, and what limits are there in terms of power to effectuate that policy and what public notice is there so that people know how policy is being implemented.

As I said many times before, we just don't have a secret grain board with good intentions, making policy that people don't understand how it is being done, and that kind of scenario. You can't have the potential for favoritism and special deals and all sorts of things.

Thank you very much. Other members have questions?

Mr. EMERSON. Yes, just one quick one. Byron, the market—the people who participate in them have means of advising themselves of factors that affect supply because as you suggest, one would think that this would have some effect on the price.

If the Government was indeed playing a game here, but as you suggest the farmer-held reserves are low, people who participate in the markets would know that, and you would still think that there would be an effect on price.

What do you have to say about that?

Mr. DORGAN. I don't know the answer to that. That is part of the perplexing issue here. Why have prices not responded in a predictable way?

It is, I think, partly because the pipeline has not been vacuumed because of the way reserves have been handled, but the other question is: Why have the markets not responded?

Mr. EMERSON. Yes, but people who actively participate in the markets would know if the Government was keeping the pipeline full for cheap food purposes, as you suggest, but the farmer-held reserve, they would also know that that was being depleted. Do you think that would have some effect?

Mr. DORGAN. Well, the markets don't always act rationally, either, and when they don't act rationally, one wonders why. I don't know the answer to that. It is part of what I asked the GAO to evaluate.

Mr. EMERSON. Thank you.

Mr. GLICKMAN. Mr. Smith, and we would also, before I recognize him, like to thank him for the buttermilk pancake mix. Perhaps he might want to explain what he is doing by this gift, which is—I have been advised by the Ethics Committee—in conformity with House rules.

Mr. SMITH. After you have pancakes from this, Mr. Chairman, there will be an investigation, I am sure.

The facts are, Mr. Chairman, as you were quite aware and by your gracious attendance in Oregon during a Wheat Subcommittee hearing, this product was launched. It is a unique and brand-new product that developed in the Pacific Northwest from Soft White wheat.

Heretofore, it is not on the market, but I wanted this committee to be sure and have the original batch simply because it is another thought that we can develop products from wheat that heretofore have not been explored, and it is an opportunity for us to sell wheat in another manner and in another composition, and of course I am sure this committee is most interested in marketing wheat in any way we can.

So this is a brand new product from Oregon, and I am delighted to be able to bring it to you, and I would be interested to hear your reaction after you have tried it. I know you have, Mr. Chairman, because you were there in Oregon. Thank you.

I just have one question, and I will get you a pack, too, Byron. This is not going to replace Durum, but it is something you can mix with water, and even you can fix hotcakes and so forth.

Mr. DORGAN. What do you mean, "Even me?" [Laughter.]

Mr. SMITH. Maybe you are a chef. I didn't know that.

I and this committee, as you know, have been most interested in the question of what happened with the Canadian Free-Trade Agreement in relation to trade with Canada, and one of the issues that we delved into quite deeply was the question of how in this transition do you stop dumping from Canada, especially in wheat, especially along the northern tier border States of the United States.

And I was obviously very interested in that issue. And as you recall, we changed section 22 to provide relief for wheat farmers and others in commodity groups, and we also have a fast track through one provision in the trade bill, as you are very familiar.

I guess the point is if Durum is under great pressure from Canada, why aren't producers using the tools that we placed in the

Canadian Free-Trade Agreement and the trade bill to stop that because that is the very purpose it was placed there?

Mr. DORGAN. Well, I think they will. As you know, although you mentioned the fast track, it is relatively time consuming, and it is very costly under the best of circumstances.

And what angers me is that I have a letter from the Secretary of Agriculture who was then Trade Ambassador and I indicated then I was concerned about this happening, and he exchanged letters with the chairman of the Ways and Means Committee that said:

This is not going to happen. There is going to be evidence of good faith on both sides, and we are going to see that it doesn't happen.

And the way we are going to see that it doesn't happen is that we will decide not to challenge the licensing system in Canada, which could be GATT violative. We will not challenge that as our evidence of good faith, and their evidence of good faith will be measured by what quantity of grain is coming into the United States from Canada.

That was his representation. Why should producers have to spend money to go to court, to an international tribunal, to try to determine what can be done as a remedy when Clayton Yeutter assured us this was not going to happen, and you would expect him to stand up and fight with us when it did. And now he is taking a vacation on us, and frankly I am upset about that.

I hope you will get about half-angry, and I hope this subcommittee will help us look into it because this should not happen. The best way to ruin this agreement is to let these boils fester and not lance them.

Mr. SMITH. I don't disagree with you, but one of the provisions in both those pieces of legislation was the protection that if the Government, that is, didn't take a position, the growers could, and of course that is the point I am making.

Mr. DORGAN. And they will.

Mr. SMITH. If it is grievous enough, they will take action, and it is there for them to take, and I support that.

Mr. DORGAN. And they shouldn't have to is my point. This administration ought to—in fact, this could be solved by pressure on Canada by the administration saying, "Look, we made representations. Our word is at stake, and you have to back off."

The Durum plantings in Canada have increased 50 percent from 1985 to 1989. In 1985, there were zero imports of Durum exports from Canada to the United States. Now, it is 7.6 million bushels, and that is 14 percent of the domestic market.

Mr. GLICKMAN. Further questions of Byron.

[No response.]

Mr. GLICKMAN. If not, thanks Byron. We appreciate it very much.

Mr. SMITH. Mr. Chairman, if I might ask you to allow us to take a picture of our pancake mix with the members, if they would allow us to do that. I have a photographer here.

Mr. GLICKMAN. Absolutely. Why don't we let our next panel come up here and expedite matters, and we are going to take a picture right up here.

Mr. VOLKMER. Mr. Chairman, I think the picture should be of the gentleman from Oregon with the skiddle frying up a pancake.

[Pause.]

Mr. GLICKMAN. Yes, Mr. Grandy.

Mr. GRANDY. Mr. Chairman, in the spirit of comity, I allowed myself to be photographed holding this bag of wheat as a member of the Ag Committee and as a member of this subcommittee and in deference to my friend, Mr. Smith.

As a member of the Ethics Committee, however, I would respectfully request to have my eyes blacked out when the photo is developed. [Laughter.]

Mr. GLICKMAN. We will do that, and we will also extinguish your name from this committee list.

We thank the panel for being so courteous.

Mr. SMITH. I agree. Thank you, Mr. Chairman.

Mr. GLICKMAN. We have a panel now of three individuals, highly respected folks on food policy: Dr. John Mellor, director of the International Food Policy Research Institute; Mr. Don Reeves, agricultural policy analyst for Bread for the World; and Mr. Rodney Leonard, executive director of the Community and Nutrition Institute.

We thank you for being here, and I think Mr. Reeves is accompanied by Ms. Amanda Wolf. So let's start with Dr. Mellor, Mr. Reeves, and Mr. Leonard. And as I said before, try to summarize if you can. Thank you.

STATEMENT OF JOHN W. MELLOR, DIRECTOR, INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

Mr. MELLOR. Mr. Chairman, thank you very much for the opportunity to testify on this important issue. I will enter a very brief statement in the record, and I hope to make an even briefer oral statement.

As I look at the testimony of the people who have already testified, I see a good deal of agreement in pushing policy in what I think is a very desirable direction with respect to reserves. My testimony differs in two areas but more or less reinforces what I see as the central stream of other testimony.

First, I put a much higher explicit emphasis on the importance of stocks to the United States as the largest grain exporter in the world, and as in aggregate the wealthiest country in the world.

Reliable stocks are important to building commercial export markets. I am much more explicit than others on the relationship between stock policy—reserve policy—on the one hand and commercial exports on the other hand.

Second, I make explicit reference to the International Monetary Fund cereal facility, which is a very important complement to reserve stocks. I will expand on that point somewhat.

I want to emphasize that the humanitarian role of stocks and reserves is of course terribly important, and the United States has a particular moral responsibility and physical capability to help in that area. Almost everybody is drawing attention to that role. I won't expand further on that.

I want to emphasize that the only growing market for commercial grain exports in the world is in the developing countries. They already represent close to half of the total commercial export market. They were growing very rapidly as a commercial market

in the late 1960's and the 1970's. In the period of tremendous structural maladjustment in the world, in the 1980's, the rate of growth of commercial imports in the developing countries slackened as their own economic growth slackened. I think we have every prospect of returning in the 1990's to a situation much more nearly like that of the late 1960's and 1970's of rapid growth.

What is the connection between growth in commercial markets in the developing world—as I say, the only growing market—and grain reserves? The basic point is that the developing countries are still quite poor countries. They are extraordinarily responsive to price as compared to the developed country importers, such as the Soviet Union and Japan. What is happening to price makes a big difference to them. Further, the growth in demand for food is very subject to policy. If they are worried about the unreliability of the world grain trade, the unreliability of reserves and see a problem to their own political stability in embryonic political systems, they have a good deal of scope for keeping the growth and demand for food down by restricting the growth in their monetary supplies and restricting development efforts, and particularly restricting growth in employment.

We see those policies very clearly in effect in India, which used to be a big cereals importer. It ceased to be an importer not because of great success in the green revolution in India, although they have had that, but because they followed very conservative development policies which have slowed the growth in employment and effective demand for food.

An unreliable global food situation encourages developing countries to hold back in demand in their domestic markets. That has tremendous humanitarian implications, but it has very important commercial implications as well.

My point is that the risks to developing countries in following high-food-demand growth policies are very high in a world of unreliable reserves and stocks.

As we move to increasingly open and liberalized grain markets in the world, I have no question that we are moving to a situation of smaller carryover stocks and therefore greater fluctuations in the availability of grain on commercial markets. Therefore, we need to think very carefully about that.

I would urge that as one looks at liberalization, which I think we all hope is going to happen in the world, that will have to be associated with more careful public attention to stocks.

I want to make two specific comments with respect to what to do in this area. One, as I indicated in my introduction, I want to draw particular attention to the International Monetary Fund cereal facility. It is a facility for financing grain exports. It is not a physical reserve facility, but it helps poor countries maintain their imports in periods of distress.

That facility is moribund at the present time. The major grain importers and exporters, including the United States, have done very little to meet the problems in that facility in order to reform it so that it can play a role in support of becoming a reliable supplier in meeting the needs of developing countries. That is my first recommendation.

Two, as has been a general tendency in testimony, the Farmer-Owned Reserve is a good idea. It needs a good deal of reform in its operating rules, and it needs to be made to operate in such a way that it makes the United States a more reliable supplier.

Finally, we need to keep political pressure on other developed high-income countries which run policies, which tend to destabilize global grain reserves. It is very hard for the United States to play an effective role in this area when other countries are undercutting it. We need to all get together in order to play an important and effective role in this area. Thank you very much.

[The prepared statement of Mr. Mellor appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you very much. I think we will go ahead and we will hear from Mr. Reeves right now.

If members want to go vote, I am going to stay. So I am just going to go through the—well, it is a vote on the approval of the journal. It is quite a significant piece of legislation. [Laughter.]

I think I will just stay through it because otherwise it will delay us about 30 minutes. It is up to members.

Mr. Reeves, why don't you go ahead.

**STATEMENT OF DON REEVES, AGRICULTURAL POLICY ANALYST,
BREAD FOR THE WORLD, ACCOMPANIED BY AMANDA WOLF,
RESEARCH ASSISTANT**

Mr. REEVES. Mr. Glickman, members of the committee, Amanda and I appear on behalf of Bread for the World, whose concern is public policy that affects hungry people around the world.

I carry an additional perspective in that I am a Nebraska farmer, and I have a strong personal stake in stable equitable prices. My livestock operations have been disrupted when grain prices have gone crazy in times of shortage, and I have also been affected by the low-price effect of mismanaged grain reserves.

We think that the case for grain reserves and market reserve and a smaller food security reserve are very strong. We think that these reserves together can contribute to world food security and enhance the performance of grain markets and can be the basis for fruitful cooperation provided the goals are kept paramount.

Amanda has worked with me this summer and has uncovered a couple of things about the variability in grain production consumption that seem worth pointing out. First, if you look at the record of the last 30 years, it appears that the variability—the year-to-year variation in grain production—has been increasing. There might be several reasons for this, but to start with that as a basic fact.

The second thing which I haven't seen explored anywhere else is how people adapt to this increasing variability in grain—variation in grain production. There are basically two ways that the world can accommodate the changes in grain production. One is you change the use—how much you use—and the other you change in the carryover stocks.

There is a fairly dramatic shift if you compare the period before 1977 with the period since 1977. Before 1977, the larger shift in

adapting to change production was in consumption. Since then, the larger shift has been in carryover stocks.

We don't think we have the analytical capacity to make kind of a direct cause and effect relationship. But we would point to the larger stocks which coincide with the establishment of the Farmer-Owned Reserve, and think that that needs to be explored further.

If in fact that shift from relying on changes in stocks to the benefit of consumers is tied to the reserves, it strengthens, in our view, the rationale for continuing this reserve.

I want to spend the rest of my time talking about some of the adjustments. I have been on the farm. I have felt some of the same kind of impacts that Congressman Dorgan mentioned, and it seems to me that the flexibility that has been associated with reserves has been overdone, and there are some things we ought to be able to learn from that experience.

One suggestion we would make is that we look at stock levels as an indicator for triggering—for making the decisions, whether we add to or draw down the reserves. At this point, we are relying on the size of the reserve stocks and market price. Well, I would endorse much of what the Congressman said about what has happened to the effectiveness of the market as an indicator.

But why not look directly at the stock levels—carryover stock levels—as an indicator of need of whether we need to be adding to or subtracting from reserves?

I think there is a secondary reason for looking at those stocks, and that has to do with the integration of the stock management goals—the reserve goals—with the other stock management decisions that are made. Those are set-aside export enhancement rules and the use of commodity certificates.

We look at stock levels when we make those kinds of decisions. It seems to us that we ought to integrate the Farmer-Owned Reserve goals with that set of decisions.

We have done a second schematic here that kind of helps illustrate what we are talking about. If we looked not only at price but at stock levels, then we would make a decision. For example, if stock levels were relatively high, and we would assume under normal circumstances, as least, prices would be relatively low.

And the triggers we are suggesting for wheat is the million bushel trigger for mandatory set-asides. By the time you get to that point in stock levels, and prices are apt to be somewhere down around loan level—anytime that those two conditions existed and your FOR stock levels were in the lower range, then the presumption ought to be—the planning presumption for set-asides and other things—ought to be to rebuild those stock levels—to build those stocks. That ought to be the planning mechanism.

Conversely, if carryover stock levels are quite low and prices are quite high, then that obviously is not a time to accumulate stocks, and when you get toward the extreme that is the time you begin to think about drawing those down.

Two other quick suggestions in management. We think that decisions regarding entry or drawdown reserves need to be reviewed more often than once a year, which is the present practice—at least semi-annually because conditions change, and what was ap-

appropriate before the crop was planted might look quite different at the time the crop was harvested.

The final suggestion on the management of the FOR is that we think to maintain credibility in this reserve and to keep reserve stocks from depressing prices, that at least a good portion of these stocks are going to have to be under multiyear contracts.

The notion of annual renewable contracts seems to me to open it up to the kind of manipulation and misuse which has characterized the operations today.

A final quick suggestion on our approach to the food security wheat reserve, our approach to that would be very conservative. We think that will be the first stock that is replenished and the last one that is replaced. We would not withdraw that at all as long as there are any significant stocks in the Farmer-Owned Reserve and certainly would replenish it fairly promptly whenever it is used, unless we are really in extreme circumstances.

We really take a dim view of the present opening of the food security reserve at the same time we are still subsidizing exports.

Thank you.

[The prepared statement of Mr. Reeves appears at the conclusion of the hearing.]

Mr. GLICKMAN. Good point. Mr. Leonard.

**STATEMENT OF RODNEY E. LEONARD, EXECUTIVE DIRECTOR,
COMMUNITY AND NUTRITION INSTITUTE**

Mr. LEONARD. Thank you, Mr. Chairman. I think today we are in a position where essentially we have no grain reserves, particularly food grains. Our stocks of wheat are under 500 million bushels. That amounts to probably about one-third of what we should have.

The worst problem is that we cannot support a draw-down in the range that we have experienced over the past 3 years on an annual basis. We are in an unusual situation where the world this year has produced the second-largest wheat crop on record, but it was not sufficient to—it will not be sufficient to meet the consumption needs in the world, and we are going to have to draw-down wheat stocks further from there.

Grain reserves in the United States have served essentially two purposes. One is to support farm income—Farmer-Owned Reserve. Farm income is still recovering from the depression of this decade.

The second purpose is foreign aid, the food security reserves, the Public Law 480. We are going to have to draw those down quite extensively this spring because it looks as though Ethiopia is going to return to a near-starvation situation.

We have two new demand situations to deal with that we didn't have or we did not recognize in prior years. One is export targets. We now pretty much are committing ourselves to export 1.5 billion bushels of wheat a year. We are using the Export Enhancement Program to reach those targets.

Second, we now see that the Soviet bloc is in transition, and the political stability is going to be very dependent in those countries on adequate food supplies. And the only place they can come to on a regular basis is the United States.

If you look at all those four conditions, they add up to a need of reserves of somewhere between 1.2 and 1.4 billion bushels of wheat. Management of those reserves is actually more important than the size. What we are now into for the 1990's is a new era of supply management in which we have to coordinate production, reserves, and exports.

The EEP is going to be with us. I think we have to recognize that. If we have 1.4 billion bushels of wheat in the reserves, we ought to be able to use EEP on an unrestricted basis to achieve our export goals. If we have between 1 and 1.4 billion, we ought to have a limited use of EEP. And when we reach 700 million bushels, we ought to stop using it. As Mr. Reeves indicated, we shouldn't be subsidizing exports when we can't supply our foreign aid commitments.

The problem is that the United States now is very vulnerable to food shortages. I have distributed for the members of the committee copies of the report that we have done in a recent issue of "Nutrition Week" on the fragile balance that now exists between food and population, not only in the United States but worldwide.

If we reach a point where there is a precarious or near-food shortage in the United States, you can be certain that the Federal Government will either embargo grain exports or else it will buy grain on the world market and essentially export hunger from the United States to the world.

Both of those are unacceptable politically and economically, and a reserve policy is now very crucial to avoid those kind of conditions.

[The prepared statement of Mr. Leonard appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you. I want to thank all of the panel members for the brevity of their formal testimony.

Mr. Leonard mentions in his closing remarks that—or implies, at least—that food shortages are a real threat both overseas as well as perhaps at home. I wonder if either one of you witnesses would care to comment on that because that was raised at our last hearing, whether that was a scare tactic trying to frighten folks or whether there was any validity in the fact that at least with respect to grain production we may be in an era of shortages.

Dr. Mellor.

Mr. MELLOR. I would like to respond in two ways. First of all, you are considering this whole issue of grain reserves precisely because it is an important issue, and the world is headed in a direction of greater instability.

Left alone, we are headed for a situation in which every once in a while, we are going to have very short supplies, sky-rocketing prices, and a lot of people—especially poor people—suffering greatly from that.

So yes, we are going to see some problems unless we take some action in this reserve area, and I might say that I don't think the action is revolutionary. I think the action needed is part of the evolution which is going on.

Now, there is a second question here of what is the long-term trend, and let me make a slightly complicated statement here in

two parts. The first part is that the world has been feeding itself better and better as time has gone on and will continue to do so.

So I think it is a scare tactic to talk in terms of increasing famine in the world as a secular or trend factor as distinct from a special one year here and there factor. Technological change is moving ahead. It is gradually making us better off. It is running ahead of the environmental problems, et cetera.

Having said that, however, let's keep in mind that in the developing countries of the world, as their incomes go up, they increase their capacity to consume more food very rapidly.

What we are after in the world is to be sure that that increase in purchasing power to spend on food to improve their diets can actually be met by an equally rapid growth in supply.

So what we are talking about is how can we make this world a better place from a food point of view quite rapidly over the future? There is not a scary scenario there. There is a very nice scenario. But in that nice scenario, there is the clear possibility that restrictions on production in the United States and Europe and so on not slow down our growth so that we can't make adequate supplements to what the developing countries are doing on their own.

It is a complicated point because it says that the developing countries are improving their situation as time goes on from a production point of view, but that they want to eat even better than that, and that they can draw that even better somewhat from us if we have the right complementary policies. Thank you.

Mr. GLICKMAN. Mr. Reeves.

Mr. REEVES. I think I would respond to the question with two points, one on the notion of risk and the second around distribution.

One of the exercises that Amanda and I did this summer was a very simple exercise. What if the drought had come in 1989 instead of 1988? And for the 1989 crop, we had in place the same set-aside production rules that we had in 1988?

Well, it turns out that if in that kind of scenario we would not have had the reserves to prevent completely running out of grain, and almost certainly grain prices would have skyrocketed during the season, or you can use the same thing to project starting from now, what happens if we have a drought even of the magnitude that we experienced in 1980 or 1988.

So we are at the point where the risk of shortage and skyrocketing food prices, and the impact of that always falls hardest and first on the poor people.

The second point is that of distribution. Distribution of income in the United States and in the world continues to be increasingly skewed, and so the vulnerability to hunger continues to mount among these folks.

Now, as John Mellor points out, the people who have the means can afford more livestock, and there certainly is a buffer capacity. Some of the grain that we feed to livestock can be withdrawn as it was in 1988, as it was in the mid-1970's, and feed to people.

But then you get into the question—I am a livestock producer, and it took us several years to get over the impact of that. So it

seems to me that both these considerations add to the importance of a sound reserve policy.

Mr. GLICKMAN. I have one question. I don't know if you all can answer this, but do you think we have put too much land in the Conservation Reserve Program, and in wheat we have effectively created a 10-percent ARP for the period of the CRP?

Is that too much land to set aside on kind of a semipermanent basis? Do any of you have any thoughts on that?

Mr. REEVES. I suspect if we needed it very badly, we could find a way to get it out. I don't think we are quite at that point, yet.

It seems to me that the land in the Conservation Reserve Program, if we desperately needed that to increase wheat production, for example, we could find a way to get it out.

Mr. GLICKMAN. Well, we would have to break the contracts, but what you are saying is that we would just do it if we had to do it.

Mr. REEVES. It seems to me that that is right.

Mr. GLICKMAN. Any other thoughts on that?

Mr. LEONARD. I don't think that poses any real problem at all. Given the land that is available now for wheat, we have a potential of producing 2.8, 2.9 billion bushels a year.

If our domestic consumption stays around 1 billion, and we manage exports of 1.5 billion, that leaves a cushion of 400 million—if it's a normal season. The problem is this year we had expected to have somewhere in the neighborhood of 2.4, 2.5 billion bushels of wheat, but because of the drought, it cut it down to somewhat below 2 billion.

So we had to take those 400 million out of reserves, and we don't have those reserves anymore. But there is enough cushion to build stocks back if they are managed properly.

Mr. GLICKMAN. Yes, Dr. Mellor.

Mr. MELLOR. If I could just add a small point there, that the year-to-year fluctuations we want to take care of with intelligent reserve policy in bringing land in and out, and I would say that the United States behaved quite responsibly over the last year or two with respect to bringing land back into cultivation.

I think what worries me much more, as I look ahead over the next 10 or 20 years with this booming demand for imports from developing countries, based on their growth, including their agricultural growth—and I want to emphasize that—I worry a little bit about where it is going to come from.

We want to remember that the rate at which we are reducing the cost of production in American agriculture is slowing down. We used to reduce the cost of production through good research, good extension systems, good input supply systems. We used to reduce that cost of production very quickly, very rapidly.

We are reducing it at about one-third of the rate that we did about 20 years ago, and we are reducing the rate of productivity increase and cost reduction at a pace which is not consistent with global demand for food.

We need to be very careful that we are not excessively cutting back the amount of money which the Congress and the States are appropriating for agricultural research and the other things which keep American agriculture competitive, and therefore keep the rate of production up.

That is the long-run problem, and that is part of the answer to your question, I think.

Mr. GLICKMAN. Thank you very much. I appreciate your testimony. Mr. Marlenee.

Mr. MARLENEE. Mr. Chairman, I will defer to Mr. Smith, who has been sitting here very patiently, and I apologize for arriving at the meeting late. I will reserve my time here for a moment.

Mr. GLICKMAN. Mr. Smith.

Mr. SMITH. Thank you very much, Mr. Chairman. It makes us all salivate to discuss international food policy, and it is very difficult to pin down what reactions we should make in setting agricultural policy in the United States to reflect our humane concern about world food problems.

But I guess my question to you, if we want to philosophize, is: Should we manage American agriculture for the purpose of feeding poor people around the world?

Mr. GLICKMAN. Any of you can answer.

Mr. MELLOR. I would jump right into that and simply say that I don't think we have to ask that question, and the reason is that development is going on in much of the developing countries and will spread, and that is bringing growth in effective demand and commercial markets for us.

And it is in the interest of American farmers to tool up, get their cost of production down, have us become a reliable supplier, to service those rapidly growing markets. And that is good for our farmers, and that extra food, which is coming in commercially, is being eaten by very poor people, also, as their incomes begin to rise off the floor, off the bottom.

So I think we can look at this in a way that is good for American farmers and good for the poor people in developing countries.

Now, there is a little trickier aspect to that. If we can cultivate those markets and do humanitarian good more rapidly, if we look at how our foreign assistance programs can help in getting those countries moving, and it is doing it moderately well, at least, and if we think how food aid can be used to get both the agricultures and the economy generally of those countries going.

But we are in a nice area when we talk about food where commercial interests and humanitarian interests pretty much come together. There are a lot of policy areas where humanitarian interests and commercial interests diverge very sharply. But with food, it is poor people who are going to eat the bulk of that additional food. If you can get their incomes up, you meet simultaneous goals.

Mr. SMITH. Dr. Mellor, the reverse flip of that is if it is our policy, and it has been, to be stable producers and to be reliable suppliers—which is the center of our attempts to manage agriculture in this country—then we all know that production depends upon price, and if you increase the price, you get more production in this country, and we have fantastic opportunities to supply not only our needs but greater world needs.

But then the question comes, who pays for that increased price? If it is not going to come from Third World countries—which is very difficult because they have no money—is it going to come from the coffers of the public, taxpayers, to increase the price artificially to growers? And if we are going to increase our supply, it

seems we have to increase the price, and that has been the dilemma that we have been facing for years here.

So who pays?

Mr. MELLOR. I will try to withdraw after one short statement here, but I think we want to keep in mind that the incentives to produce are partly a function of price, but they are also a function of the cost of production. The United States has done an extraordinary job historically in helping to bring that cost of production down, as I said before, through expenditures on research—

Mr. SMITH. I think you also said the cost of production is leveling out. Research has been extended, maybe, to almost the ultimate. We are being attacked right now, as you well know, on the issues of chemicals and insecticides which will surely reduce our production if some people have their will here.

So who pays, in your opinion? Who is supposed to pay the price?

Mr. MELLOR. I think on the cost of production side, that we have been reducing our expenditures in the areas for bringing costs down. Research budgets in the agricultural colleges in this country have been dropping for some time, and what money they get has been going less to agriculture and more to other types of research within those colleges and so on.

And that sort of thing is paid heavily from public revenues, I agree, and the beneficiaries from lower costs are not just farmers but consumers as well. So I am sort of trying to ace the issues somewhat here by emphasizing the cost reduction.

In the final analysis on reserves, I think there are going to be some costs that fall on the public, and the question then is to what extent will farmers share in picking up those costs, get a little bit less in terms of subsidies but a little bit more in terms of picking up the cost of building up reserve stocks.

Mr. SMITH. Thank you, Mr. Chairman.

Mr. REEVES. Mr. Smith, if I might respond very briefly to the original question of should we run our policy to feed the world, my answer, I think, would be a flip answer. We should not run our policy in a way that threatens the well-being of people around the world.

And it seems to me that that, in a sense, is what we have been doing.

Mr. SMITH. If we did that, then we might not have any farmers left, and that surely would threaten the world.

Mr. REEVES. Well, let me follow that a little bit further.

Mr. SMITH. OK.

Mr. REEVES. John Mellor's first point was that the expansion in market for U.S. agricultural exports are the Third World. It is a cereal market for the most part. It depends on development and prosperity in those countries.

Now, in most of those countries, the agricultural sector is a much larger sector than in our own country. In some cases, it is the majority of the people in those countries. Unless the farmers in those countries prosper, that market that is out there—it is potential and fairly long range—that market is not going to develop unless those countries prosper. The countries are not going to prosper unless their farmers prosper.

As a grain farmer in Nebraska, I have a long-term self-interest in successful development in the poor countries, and that we ought to run our agricultural policy in a way that is consistent with that. I think we can do it in a way that is consistent with the agricultural development in the poor countries and in the interests of the U.S. farmers at the same time.

Mr. SMITH. I would like to see that prescription.

Mr. REEVES. I think the tightening up of the rules of our grain reserve is one piece of that.

Mr. GLICKMAN. Mr. Jontz.

Mr. JONTZ. Thank you, Mr. Chairman. Dr. Mellor, you presented a pretty optimistic scenario about events in the developing countries in the next decade. Your statement was that you believed that the 1990's could bring a return of what we saw in the 1970's.

I am interested in the reasons for your optimism. It seems to me that we have a crisis situation in the developing world with debt, with political instability, with defining standards of living.

Is the Brady plan going to work? What is going to get those countries back to the rates of growth? Are the oil prices going back up, prices for coffee, cocoa? What is going to happen that is going to bring those countries back to where they were in the 1970's?

I have heard some experts say the 1970's were an anomaly, that growth rates we saw there will not return. Give us a little more insight into the assumptions that you use in your predictions about what is going to happen in the developing world over these next few years.

Mr. MELLOR. In order to be brief, let me do this sort of one-two-three-four. One, the underlying capacity for growth in the developing countries has been increasing everywhere, including in Africa, through this very bad period.

The underlying capacity is basically educated people and the effective institutions for them to work in. They all have been improving that. We haven't seen it because of the debt crisis, and in the case of Africa, incredibly poor domestic policies I would say partly to be blamed on the donor countries, not just on the Africans. It took two to make that big a mess.

The second point is, of course, the debt crisis is a very serious problem for a somewhat limited set of countries, particularly Latin American countries which should be a much bigger market for U.S. commercial exports, Mexico and Brazil in particular. And one needs to keep working on that.

I am not an optimist or a pessimist. I would say let someone else worry about it, but my impression is that we are sort of jiggling to some kind of a solution on that.

The debt crisis is really not the basic problem in Africa. It is bad policies, and I think when we get the policies straightened out as they are, you will, over 15 or 20 or 30 years, begin to see Africa coming around.

Now, what does that leave? It leaves Asia, and most of Asia is getting back on a high-growth path, now. We look at a country like Taiwan, which is a small country with 20 million people, back in the 1950's it had a lower per capita income than the Philippines and Sri Lanka. Incredible—down around \$250. In 3 years time, they are going to be at \$10,000 per capita.

Let's look at something that is newer. Thailand is now back to between 7 and 8 percent growth rate. It is a European-sized country around 50 million people. Malaysia is back to about an 8 percent growth rate, and is becoming an increasingly large importer of cereals.

India—thought to be a hopeless country—they used to grow at about 3 percent GNP. They are on a solid 5 percent per year growth rate in GNP, twice what we think of as very good in the United States, even deflated by population. It is higher than the U.S. per capita growth rate. They are clearly headed for 6 percent. They don't have a debt crisis.

And there you have a country of 800 million people. You have 150 million people in India whose incomes are growing at a rate of 8 percent per year in real terms.

Now, those are very major changes. Asia tends to be different from Latin America—very few countries with a major debt crisis there. The Philippines is an exception, of course. It has a debt crisis. These are countries with massive populations.

The optimism really is based on looking at the actual current facts of a return to growth in Asia. The pessimism is to look at Brazil and Mexico and say, "When are we going to get out of this debt crisis for those countries."

Mr. JONTZ. Well, let me follow-up with the question to Mr. Reeves. Mr. Reeves, you said the economic well-being of the agricultural producers, the small farmers in these countries are very critical to overall economic growth because of the significant portion of the population that is involved in agriculture.

Are things looking pretty good for farmers in these countries? Are they enjoying high prices? I am really skeptical about Dr. Mellor's optimism, and it seems to me that the agricultural sector of the economy in many of these countries around the world may be some exceptions. It is really very good.

Mr. REEVES. I am afraid that it is really not possible to generalize, that the prices to farmers are first of all an effect of domestic policy decisions in those countries.

But there is some connection to the world market which we have established. We, for example, buy our use of market loans in rice, our use of certificates with wheat and feed grains have pushed prices lower than they would otherwise have been.

And insofar as those world prices feed into those domestic economies in ways that they can't overcome with domestic policies, we have exacerbated the problems of farmers in those countries.

And if world prices came up, as I think they would, and they may in fact be headed that direction given the current stock situations, it seems to me that that would have a positive impact, and as farmers have a little cash, then they begin to look at bicycles or a feed cart or radios or fountain pens, and that generates more activity through the rest of the economy, and those people can afford more food stuffs.

And when they get to the point of enjoying a little poultry products or hogs, that is good for the corn market, and I am in the business of raising corn essentially for export.

Mr. JONTZ. My time has expired.

Mr. GLICKMAN. Thank you. Mr. Marlenee, and I would first like to recognize Mr. Chairman. It is a pleasure to have you here. Would you like to make any comments?

REMARKS OF HON. E (KIKI) de la GARZA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

The CHAIRMAN. Thank you very much. I didn't want to cut ahead of the members here, but I only have a brief moment. Thank you, Mr. Chairman, for having this very important meeting.

I just want to tell you the de la Garza philosophy and no one else's. We, as a country, have a moral obligation to do our part to see that the people of the world are fed. I think we have done fairly well in that and are still doing it.

My problem is, and I ask you experts. Dr. Mellor, you just mentioned India, and I heard Indira Gandhi say, "We are self-sufficient," but they are still dying in Calcutta everyday. You mentioned the growth, and you mentioned the reserves and what they sell, and they are still dying in Calcutta everyday.

You go around the world and it is the same thing. But you always hear that we have sufficient food—the United States almost by itself, but with help from some other countries can feed the world, but just can't get it to the right people at the right time.

Is that a factual statement? Any one of you can answer.

Mr. REEVES. I think that if you just kind of split all the food that is available up, and were able to pass it around, yes, the food is there.

In answer to an earlier question, I pointed to the problem of distribution, which is a problem not only in India but in the United States, as you are aware.

I think we have moved into a world where what may be politically popular in terms of self-sufficiency is no longer realistic. The national barriers are dropping. The world markets are becoming more and more integrated. And if India prospers, if it is able to generate more income—particularly for the poor sector—it seems to me that there is potential for grain farmers from Nebraska to help meet a real need, that people in India may be able to respond to.

The CHAIRMAN. My concern is that we are speaking of reserves and trying to change policy here when you have to begin over there.

Now, I know we can't intervene politically, but I have been from Mauritania to Tanzania and Mozambique, and for all of the reasons, there have been no stories that you got to come from North Africa or you have to come from the Atlantic, not enough transportation, inefficiency, corruption in government, political warfare down to tribal warfare.

We can't just close our eyes to that and say, "Well, we are not doing enough to have a grain reserve to feed these people."

We lost one of our Members who was there negotiating between factions to get food to hungry people. Sometimes it is frustrating to feel that we are not addressing the base cause of the problem. We are talking here about how much grain reserve, what do we do to the farmer here, what do we do to the farmer there.

The institutions and the agencies, even the distribution agencies—God bless them—do wonderful work. They aren't able to cope with the base cause, which is internal.

We have some countries—one that I could mention—that has declared itself self-sufficient in food, and they camouflage what they buy from us.

Mr. LEONARD. Mr. Chairman.

The CHAIRMAN. Yes, sir.

Mr. LEONARD. I think what you are talking about is an institutional problem that the United States doesn't seem to be able to address adequately, which is a world food reserve. The problems in Africa have been exacerbated because we couldn't move the food in there fast enough because the political machinery simply was inadequate for the task.

That was what Mickey Leland was trying to address when he was killed. He was looking for new ways and new institutions to address these problems on a world level, and I hope what you are able to do and what the committee is able to do is to continue exploring those kind of new institutional structures.

The United States has provided the world food reserve, but because of the political problems, we can't use it as a world food reserve.

The CHAIRMAN. We can't go resolve the political problems of the other countries.

I guess what I am trying to say is we have it. We make it available. It is there, but yet we didn't try or we tried—or whatever. It just escaped our grasp in Panama, though that country doesn't have as much of a problem with the food as other countries in the world.

In my estimation, only two things cause revolutions: Hunger or hunger for freedom and liberty. Oppression causes revolution and inadequate food causes revolution.

But I guess what I wanted to say is the IMF—nobody wants to cooperate. Nobody wants to work with the IMF. The IMF and the World Bank—Mr. Jontz has alluded to them—they go and put oppressive regulation on the people and on the backs of the poor. "We will loan you some money if you raise the price of corn for tortillas 200 percent." It is absurd.

I didn't come to chastise you or anything, but I guess the bottom line is: What are your organizations doing besides analyzing? Either in a pessimistic or an optimistic way, because the United States cannot be the policeman for the world. We can't go change the course of political events in the world.

Bangladesh is our friend, and I want to help. Every time I turn around, there has been a natural disaster in Bangladesh, and bang, there we have to go and help them, and we do to the extent that we can.

Well, I guess what I'm urging is that you help address the issues that are the base cause, not that we don't have the reserves, not that we don't have the will, not that we don't have the desire to help, but you get it to somewhere in the Sahail, and the general sells it to the private sector, and some of it you bring to Mali, I guess, Bamoko, Mali, and it winds up in Chad or it winds up in Central Africa Republic.

How did it get from there to there and it didn't get to the people that needed it 60 miles away from their capitol?

Mr. MELLOR. Could I just make a small addition to that, quite consistent with the statement made just a moment ago by Mr. Reeves, that we need to differentiate amongst countries somewhat, that the problems of an Ethiopia or a Mali are extremely difficult because of the nature of the Governments, the political systems, et cetera, and we need to do a lot of institutional innovation and so on as was pointed out.

But let us not forget that the subject here of the question of how we operate reserves probably is not going to really provide us a solution to the Ethiopia problem, but it can mitigate the problem for huge numbers of malnourished people in the large number of countries that have moderately effective Governments and can make use of it.

I think again for most of Asia, some modest improvements in the way we handle reserve policy and so in this country can be very helpful to them in encouraging them to take some more risks in getting income into the hands of their poor people.

And if I could just comment on the India situation, Indians learned in the latter 1960's that they just did not want to be dependent on imports because they got the rug pulled out from under them at a very difficult time for them, and they have gone about becoming nondependent on imports largely by regulating demand, which means keeping those poor people in Calcutta hungrier than they need to be in the world we live in.

And what you are talking about on reserve policy will create a slightly better world for countries to take a little more risk in bringing their poor people into the development process.

The CHAIRMAN. I guess you said it better than I tried to, and that was what I was aiming at, and you said it better. We are not the problem. Don't point the finger at us. We don't need to change radically, but whatever little innovation to get it there in spite of the base problem is what we should do.

Thank you, Mr. Chairman.

Mr. GLICKMAN. Thank you, Mr. Chairman. Mr. Marlenee.

Mr. MARLENEE. First of all, Mr. Chairman, I would like to associate myself with the remarks of the chairman of the full committee, as I do so many times in committee action. They were well spoken.

Second, I would like to ask the panel, and I do welcome our esteemed panel here before this subcommittee, I would like to ask the panel that if grain is in such a threatened position and in such short supply, why is the price so low that the producer receives in the market place? Can you tell me that? I mean that is totally inconsistent with the laws of economics.

Mr. REEVES. Congressman Dorgan was at the opening of this and raised exactly the same question.

It seems to me that we are not over the edge in terms of risk.

Mr. MARLENEE. Pardon.

Mr. REEVES. We are not over the edge in terms of risk. Whether we get through the next year or the next 2 years depends on the rain, depends on the weather, that sort of thing.

But it seems to me we have, over the past several years, been so intent on recapturing our share or expanding our share of the

world market that we have neglected what I see as essential purposes for a grain reserve, that we have deliberately drawn down—

Mr. MARLENEE. Now we are straying off the question. I asked the question if our grain supplies are threatened, and if we are in short supply or in danger of being in short supply, then why is the market price so low?

Mr. REEVES. We have misused our reserves in a deliberate attempt to fight an export subsidy war with Europe.

Mr. MARLENEE. You are saying you are against the EEP program?

Mr. REEVES. I think that we have extended the EEP program to the risk of food security. We have pushed those policies further than can be justified, and we are taking extreme risks in terms of the world's food security.

Mr. MARLENEE. Do you support the EEP program or don't you support the EEP program? That is what I want to know from the panel. Mr. LEONARD.

Mr. LEONARD. I hate to venture into this mine field, but the question on price is if you look at the farm level market price over the past year, it has been climbing up toward the target level. So there has been a price increase.

The question is, is it sufficient to satisfy producers, and nobody is ever going to find a price level that will reach that.

Mr. MARLENEE. Nobody will ever find a price level that will satisfy producers.

Mr. LEONARD. No.

Mr. MARLENEE. I see.

Mr. LEONARD. If I were a producer, I would want to get as much as I could.

The question on EEP is the intent behind the program. What seems to be the policy—that is to exhaust grain supplies each year to near pipeline levels, then it is an abuse of that program.

The EEP can play a very positive force in farm income, but it has a use to achieve export targets. What has happened now is that we are using it for a variety of political purposes, and the Government wants to do certain things, wants to provide low-cost food to certain countries for particular political goals.

Mr. MARLENEE. Then you are saying that although EEP program is bad in one sense, in the other sense it does provide lower-cost food to some of the countries that receive the EEP benefit.

Mr. LEONARD. Sure. They just sold a big shipment of wheat and flour to Egypt.

Mr. MARLENEE. Yes.

Mr. LEONARD. They could have bought that on the open market.

Mr. MARLENEE. So then it is not all bad, then, is it?

Mr. LEONARD. I think that is a poor use of it when our supply of wheat is as low as it is. It is a question of how you want to manage supplies and the goals that you have for them.

Mr. MARLENEE. Dr. Mellor, you said that the one way that we could grapple with the problems of agriculture is to get the cost of production down. You inferred that.

Well, I am going to ask you have the prices of tractors come down recently? How about the price of fertilizer, the price of fuel? I haven't seen any decline in those prices. Have you?

How do you reduce the cost of production when the tractors keep going up in price, fertilizer keeps going up in price, fuel keeps going up in price?

Mr. MELLOR. Back in the 1950's, we were increasing the productivity of those inputs—the fertilizer, the labor, and the tractors—at a rate of about 4 percent a year. We are down to less than 1.5 percent a year increase in the productivity.

Of course, that productivity increase comes largely out of the research from our land-grant colleges and our experiment stations systems, plus improvements in roads and transportation and so on.

So no, those input prices have not been coming down, and if we look ahead, I suspect they are going to go up somewhat in real times. Certainly fertilizer prices are pretty low compared to what it costs to build a fertilizer plant these days, but we have a lot of scope to increase the productivity of those resources, and we are not doing as good a job on that as we used to.

Mr. MARLENEE. But you will have to admit that every cost input that the farmer has is up in per unit.

Mr. MELLOR. On the fertilizer, it depends on what year you take, but it certainly has been coming up slowly over the last few years. But we can point to years back in the 1970's when you had much higher fertilizer prices than now. And fertilizer prices are a little bit like grain prices. They flop around all over the place.

Mr. MARLENEE. The grain has come down in price.

Mr. MELLOR. Well, grain is up a bit from a couple of years ago.

Mr. MARLENEE. All right, then how is it compared to 1975?

Mr. MELLOR. In 1975, you would be down considerably.

Mr. MARLENEE. We were down considerably.

Mr. MELLOR. Yes.

Mr. MARLENEE. And the price of bread?

Mr. MELLOR. The price of bread, my wife tells me, is up, and I would agree with that.

Mr. MARLENEE. The price of bread did not come down, did it?

Mr. MELLOR. Right.

Mr. MARLENEE. About \$.06 a loaf.

Mr. MELLOR. Right.

Mr. MARLENEE. Well then, my final question is to the panel, because we seem to be advocates of a cheap food policy, which is the more expensive item in the store: A 5-pound bag of kitty-litter or a loaf of bread?

Mr. REEVES. My wife buys kitty litter or equivalent to it regularly, and it costs more than a loaf of bread.

If I might double back and bring together two of the questions you asked, though, the cost of production for corn for myself is somewhat higher than it was almost anytime looking back.

One of the things that happened in the 1980's is that we have been more conservative in the use of fertilizers and the use of pesticides. So we are using less of those inputs than we did 5 or even 10 years ago on my own farming operation.

Mr. REEVES. But as a farmer, I am interested in what I would call equitable prices, and it is hard for me to put that together with the way we have used the EEP program.

I hear people who spend their lives studying these things say we could have accomplished nearly everything we have in expanding our markets with much less severe use of EEP—that is with \$2 corn instead of \$1.50 corn, or maybe even \$2.25 corn.

Over the long haul, I am confident I can grow corn in Nebraska about as cheaply as anybody in the world can grow it, and I think that that is the kind of target we ought to have in mind rather than, as we have over recent years, drawing-down the misusing of the reserve program to continue that program to the detriment of our own farmers, at extreme cost to our own Government and competitive Governments around the world and I think to the detriment to the farmers and producers in the poor countries.

Mr. JONTZ [acting chairman]. We do need to move along, and give all the members of the committee a chance to ask questions. I recognize Congresswoman Long for that purpose.

Ms. LONG. I don't have any comments, Mr. Chairman.

Mr. JONTZ. Pat Roberts.

Mr. ROBERTS. Mr. Chairman, first of all I want to thank the panel members. We held a hearing on this same subject last week or 10 days ago, and I more or less vented my spleen at that particular time. I hadn't had my cup of coffee.

The price of wheat is not reflective of the high demand situation that Mr. Marlenee refers to. I was in a bad mood. And I am not in much of a better mood as of today.

I really worry about this business of folks who use the producer as a public utility for whatever laudable goals they may deem appropriate. I don't question that.

But for goodness sakes, we have come through a decade here of terrible hardship in farm country. We all know that, and I think we have all tried to help in that regard, and the farm bill, much maligned in the early years, has pretty much achieved its goal—along with other packages—to get that surplus, particularly in wheat, down to a level of somewhere near 400 and 600 million bushels.

I guess it depends on your definition of a surplus or a carryover or a food reserve or a food bank or what you think that surplus is. Talking with my good friends in the baking industry, they indicate they want that surplus to be 900 million.

But when you folks start talking about running short and making some remarks that are very critical of the Export Enhancement Program, and certainly we all share some concerns about that, but it is the only program that we had available to gain some market share. You are being specific on one hand, but it reflects back to the country elevators, as we all know, to the price that the farmer receives.

And I am amazed at about the time we get to a place where we have a supply and demand factor that reflects back to \$4 at the country elevator, all of your folks are like the "Poltergeist" movies. You're back. My God, we are running out, all according to your own agenda, and we are using the farmer again, whether it is the State Department or the Pentagon or the Commerce Department

or the hunger lobby or the consumer lobby or whatever lobby we have around here. We are using him as a public utility.

It is not your grain. You didn't put it in the ground. You didn't go through that cost. Obviously, the gentleman from Nebraska has done that. And I get a little upset about it.

Are we to have the farmer wear Government-issued bib overalls and put him in there as a GS-12 so that when the market finally does rebound and we get a little bit of profit—here you come again. I don't mean that personally in reference to any of the panel members, but I do have a little blood pressure about it.

I guess I should ask you what is your definition of a carryover surplus or food reserve. What would be your reaction to a cash reserve? That if, in fact, any kind of reserve is a selective form of price controls, and as the former chairman of the House Ag Committee used to say—good ole Bob Poage, who used to say you could store it underneath an Egyptian pyramid, and when the price was right, it would come out.

What about a cash reserve? If these goals are that laudable, and I think some are, why couldn't we just have a cash reserve, and if we need it, let's buy it?

Mr. MELLOR. One sentence on that. The International Monetary Fund cereal facility is precisely that, and it is dying. I think that is a shame, and I think that the United States should be playing a more positive role because that cash reserve, which the IMF could help provide to countries to maintain their imports, is very much in the interests of the U.S. farmers and the United States as a country.

So we can do more on that side.

Mr. ROBERTS. Mr. Chairman, I have obviously made a statement that reflects my parochialism and my prejudice, and I am not sure I am hearing any light on this, but I just want the panel to know that we do have a little blood pressure on this subject, and we could get into a very interesting discussion on the definition of carryover or surplus or whatever.

Would any of you gentlemen like to offer a very quick opinion in regard to cargo preference, in regard to what you all are about because I see cargo preference coming down the road again. We are going to have it applied to the aid to Poland. We have it applied now to AID. We have it applied to agriculture, and I am not trying to malign the U.S. flagship fleet or the maritime folks.

Would you have a real quick comment on that?

Mr. REEVES. As with most kinds of aid, I would prefer that it be given directly rather than come out the price that I get as a farmer. If the maritime fleet is that important to the national interest, then the subsidies ought to be more direct.

Mr. ROBERTS. That is precisely the answer I am looking for, and with that I will yield back my time. That is a very wise and pertinent comment.

Mr. JONTZ. I thank the gentleman, and the Chair will recognize Congressman Penny.

Mr. PENNY. I have no questions, Mr. Chairman.

Mr. JONTZ. We want to thank the panel. I believe we will call the next panel to the table and get started. I am hoping that Congressman Glickman will return shortly so the rest of us can vote in a

timely manner. I guess the rest of you are free to vote whenever the spirit moves you.

Let me call forward the next panel, and we will get started. First of all, Ivan Wyatt, president of the Kansas Farmers Union; Harry Pearson, president of the Indiana Farm Bureau; Dave Lyons, National Grain Trade Council; and Kendall Keith, executive vice president of the National Grain and Feed Association.

We want to welcome all of you, especially my neighbor Harry Pearson, and before we begin the testimony, I will turn the gavel back to Congressman Glickman.

We will recess until we have had the chance to vote, and we will be back shortly. Thank you.

[Recess taken.]

Mr. GLICKMAN. Why don't we go ahead and take the panel that Mr. Jontz brought up here: Mr. Wyatt, Mr. Pearson, Mr. Lyons, and Mr. Keith. We appreciate this panel coming down here.

Your testimony will be particularly important because you represent for the most part the producers of this country that work so hard to prepare the bounty that feeds both us as well as the people in the world, and any changes in the reserve program have to be compatible with the needs of producers.

So we are delighted to have you here, and I would first start with not quite my constituent, but I feel he is my constituent, and that is Ivan Wyatt, president of the Kansas Farmers Union, and a friend of mine for a long, long time. Mr. Roberts had to go to another event on the floor, but he asked me to formally extend his appreciation and welcome you this morning. I know he has had a chance to talk to you, Ivan, already.

So why don't we go ahead and begin in the order that I presented, and again I would ask the witnesses to do their best to summarize within 5 minutes each so we will have a chance for questions. I do expect another vote in about 35 minutes, so that is why we would like to get you before we have to run and vote again.

So go ahead.

STATEMENT OF IVAN W. WYATT, PRESIDENT, KANSAS FARMERS UNION, MEMBER, BOARD OF DIRECTORS, NATIONAL FARMERS UNION

Mr. WYATT. Thank you, Mr. Chairman. It is certainly a pleasure to be here. My name for the record is Ivan Wyatt, president of the Kansas Farmers Union, and in that capacity I also serve on the board of directors of the National Farmers Union, and I appear here today representing some 300,000 family farmers.

This is the first time for me to appear here in Washington in one of these committees, and the last time I appeared on a panel similar to this was on the issue of hunger and reserves on the "Morton Downey Show." Well, now, I take it this is going to be a more sedate-type of hearing.

Mr. GLICKMAN. You don't know Mr. Jontz. [Laughter.]

The only thing you won't get here is the profanity. That I can assure you.

Mr. WYATT. For the members of the committee, in Kansas we always get the pleasure of the "Dan and Pat Show," and we all

listen to them, so I appreciate the opportunity to talk to one-half of the show. Again, it is great to be here.

The Farmers Union has long supported a grain reserve, part of the food policy of this Nation and an integral part of it, and it certainly serves an important function of our agricultural policy.

A reserve program, needless to say, helps guarantee the consumers' supply of food—an adequate supply—and it helps to guarantee our foreign customers that we will be in a position to supply their needs in case of a drought or so forth.

The farmer-reserve program was designed to work when it was established by the Food Agricultural Act of 1977. The basic intent was to maintain subsequent modifications in 1985 Food Security Act.

However, there were equal concerns such as those of Mr. Dorgan, when he talked about the governmental abuse and disregard of the reserves and intent of the reserves and the purposes, and we share in those similar concerns.

The Farmers Union believes that Congress needs to give USDA, because of these actions, direction on how Congress intended for the farmer-reserve program to work.

The central problem with current grain reserve policy—or maybe I should say the use of—is that the grain reserve program at this point is simply a U.S. program, and we bear the burden of maintaining those reserves and protection for the world.

The Farmers Union nearly 2 years ago urged the creation of a new international grain agreement, agricultural production and price board, to set the ground rules for coordination of global grain production and marketing.

And one of the key central elements, of what we call the GAPP proposal, was to establish guidelines for an international food reserve program.

The Farmers Union had advanced the proposal for the agricultural negotiations that are now going on under the General Agreements on Tariffs and Trade, and of course instead of dealing with this international food reserve program, they are looking at dismantling domestic food and agricultural programs.

Certainly, many Members of Congress, the country, and the subcommittee have expressed reservations. The administration has expressed goals within GATT and its grain reserve policy. One alternative to current administration policy being circulated in Congress has much merit, but it has yet to be formally introduced, and it deals specifically with the global reserve issue.

That is a proposal that is advanced by U.S. Senator Kent Conrad of North Dakota and Robert Kerry of Nebraska, urging President Bush to negotiate a food reserve coordination agreement as part of the Uruguay Round of the GATT.

There are four parts of that proposal. You have those in our prepared statement, but of course it does not deal with the price issue, and it has achievable goals if the United States takes a positive lead in seeking such an agreement.

I think it is clear that we will need to take that leadership role. The question is how well we manage it—if we don't manage them well—it certainly can wreak havoc with the agricultural communi-

ty. One morning, we will wake up without the ability to serve reserve needs at that time.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Wyatt appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you, Mr. Wyatt. That was a good statement.

Next, we will go to Mr. Pearson, president of the Indiana Farm Bureau. It is a great State that Mr. Jontz is located from, and I had the privilege of being out—

Ms. LONG. Me, too, Mr. Chairman.

Mr. GLICKMAN. Ms. Long, I am sorry. I was going to say I was in Columbia City, but that was a very serious mistake that I just made. [Laughter.]

Mr. NAGLE. I am glad I got here, Mr. Chairman. What else have you done today?

Mr. GLICKMAN. I must say that Ms. Long is the finest member of the Agriculture Committee without including me.

Mr. NAGLE. Mr. Jontz doesn't amount to much. Is that what you are saying?

Mr. GLICKMAN. I don't need to worry about Mr. Jontz today. In any event, Mr. Pearson, we are delighted to have you here, being represented by two of the finest Members of Congress.

STATEMENT OF HARRY PEARSON, PRESIDENT, INDIANA FARM BUREAU, INC., MEMBER, BOARD OF DIRECTORS, AMERICAN FARM BUREAU FEDERATION

Mr. PEARSON. Thank you very much, Mr. Chairman. My name is Harry Pearson. I am a corn, soybean, and wheat producer in Indiana. I am also president of Indiana Farm Bureau and a member of the board of directors of the American Farm Bureau on whose behalf I appear today.

The Farm Bureau certainly appreciates you holding this hearing on a grain reserve policy. Too often, I think, in the past, grain stocks policy has only been given limited attention in policy discussions. I think the best time, really, to discuss grain reserve policy is when stocks are at reasonable levels, and certainly we believe they are at that level now.

Reduction of large carryover supplies have been one of the major achievements of the 1985 Food Security Act. I know that weather conditions helped contribute to the reduction by carryover supplies for both wheat and feed grains that would have declined in 1988 under normal yield conditions.

A grain reserve policy encompasses a variety of issues that fall into two broad categories. The first involves establishing the basic policy objectives for programs affecting grain stocks, and the second addresses the mechanics of implementing those policy goals.

The essential grain reserve policy objective that Congress must determine is a choice between fundamentally different approaches to Government involvement in agriculture, and there are two or three of those, and the first one would be a comprehensive grain storage policy that attempts to constrain the movement of grain prices within specifically defined ranges.

The second would be a grain reserve designed to respond realiy to emergencies to both supply and demand. And the third could be a policy that calls for no Government stocks management role at all, and this is one the Farm Bureau opposed as an option because we don't consider it a practical alternative.

The concept of the comprehensive reserve program was very much a part of the creation of the farmer-held reserve program back in 1977. The price swings of the early and mid-1970's, which were caused more by monetary policy and political changes, led to intense interest in moderating price swings through a stocks management policy. Market prices were to be managed in a well-defined range with the price support loan as a bottom side and the release price per grain in reserve at the top side.

If market prices exceeded the release price, calling the grain in reserve and selling CCC-owned stocks were the ultimate weapons really to be used to limit price increases. Given the wide swings in prices in stocks that have occurred over the last 12 years, the comprehensive approach has to be considered less than successful.

The Farm Bureau opposed the extension of the farmer-held reserve in 1985 because of the experience from 1977 and 1985 clearly showed the reserve supplies had a tendency to build to burdensome levels. Once these supplies are built, market prices are depressed, and farm program costs grow rapidly, and more Government intervention results. Nothing has really happened since 1985 to change that belief.

A comprehensive grain storage policy is at odds with a market-oriented Farm Program. I think that would probably be the most important point that I would make today. We cannot expect market prices to accurately signal production and consumption changes if storage policy dictates continued Government intervention as setting the market prices.

A practical alternative to a comprehensive grain storage policy aimed at managing price fluctuations is a buffer stocks approach that responds to crisis of overproduction. But it also provides emergency food relief in times of need.

The mechanics of this form of program are simpler than those for a Comprehensive Reserve Program. It promotes storage of grain when domestic production is excessive, and the release of stocks trigger conditions of need that may arise in low-income countries or another emergency situation.

The important distinction between it and the comprehensive policy is that this program is intended to buffer market reactions rather than trying to regulate market activity or price. It would be much smaller, limited in size, and less costly than the Farmer-Owned Reserve.

The goal of storing abnormally large crops in this country has been a part of Farm Bureau policy for the last several years. The Farm Bureau policy calls for extending the regular 9-month loans for an additional 9 months when supplies are large. That would provide some temporary support to the market without the level of market intervention that occurs under the comprehensive approach to grain storage.

The key to making a buffer program work like this is to let the market forces set production and consumption decisions. Farm

income should continue to be supported through direct payments from the Government rather than through Government attempts to regulate the market function of setting prices.

One program already exists that is emergency in nature, and that is the Wheat Security Food Reserve, and this could or may serve as a model for future emergency reserve programs. A total stocks objective and a reserves stocks objective must be established, and these should be consistent with the goals of other Farm Program provisions.

Release prices for grain should be tied to the market, perhaps a 5-year moving average, which would exclude the high and the low years, those reserve release prices have been clearly out of line for the market in recent years.

The price objective for allowing grain into the reserve will also need to be set. For 1980 through 1985, loan rates were generally high enough in relation to market prices that farmers could enter their grain in the reserve with little or no loss in cash-flow.

With loan rates now set at much lower levels, there will need to be a new trigger for allowing grain to enter the reserve. Management of the reserve is likely to be more flexible and earlier.

One generally accepted assumption throughout the 1990 farm bill is that budget considerations will be important. As it relates to grain reserve policy, two major budget issues have to be addressed. The first is the budget outlays for an emergency reserve program versus a comprehensive program. And the second is whether producers benefit more from money being spent on storage programs rather than on some programs to benefit the producers.

The most important policy question, then, is what type of grain reserve policy is desired? Policy decisions in recent years appear to be shifting away from the comprehensive policy to one to meet emergency needs. This is driven by combinations of problems with the policy over the last 10 years with an interest in limiting budget outlays.

Regardless of the type of reserves, carryover stock and price objectives are critical to managing the reserve program. A grain reserve program should not be asked to do jobs that are clearly the responsibility of other policy tools like supporting income and encouraging participation in other programs.

Thank you for the opportunity to be here today.

[The prepared statement of Mr. Pearson appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you very much, Mr. Pearson. Mr. Lyons, it is a pleasure to have you and to welcome you back. You have been to this committee many times before. We are glad to see you.

STATEMENT OF DAVID LYONS, VICE PRESIDENT, LOUIS DREYFUS CORP., ON BEHALF OF THE NATIONAL GRAIN TRADE COUNCIL

Mr. LYONS. Thanks, Mr. Chairman. I appreciate the opportunity to come back to appear before you. I am Dave Lyons. I work for Louis Dreyfus Corp. here in Washington, and I am speaking on behalf of the Grain Trade Council.

Reserve stock policies have to be thought of in the context of total agricultural policy. As much as I think the Grain Trade Council and others believe that the 1985 farm bill moved us toward a market-oriented agriculture, especially market-driven loan rates, generic certificates, that sort of thing, I think that there probably wasn't the proper look at how the stocks policy fits into this policy in 1985. Stocks were very big. In 1985, nobody was too worried about how stocks came out of the reserve, but now is the time that Congress has really got to go back and really make sure the stocks policy is market oriented.

We are going to make some specific recommendations—probably more specific recommendations than some of the people appearing before you will make. These recommendations are predicated on a continuation of a market-oriented policy, particularly market-driven loan rates.

We need to raise some cautions. Since ag policy began, one of the main tools has been to isolate stocks from the marketplace and support prices to try to save budget exposure, by making prices higher than they otherwise would have been.

And I think most farmers really realize that is counterproductive. Those stocks don't disappear. They are still out there. They don't get destroyed. They come to market at some point in time. While storage payments might be great for the few farmers that are receiving them, it is not good for anyone to have those big stocks overhanging the market.

Before I get into the Farmer-Owned Reserve issues, we need to talk a little bit about some of the other reserve authorities, like the Food Security Wheat Reserve, which provides assurance that we can meet our food-aid commitments.

The Grain Trade Council believes that that ought to stay in place, ought to be pretty much as it is right now. There are a couple of other discretionary authorities: International Food Security Reserve, and there is discretionary authority for a disaster reserve. We think as long as those stocks are small and the purpose for which the stocks can be used are fairly narrowly drawn, that those should stay in place.

This brings me to the Farmer-Owned Reserve. We have to remember what the focus of the Farmer-Owned Reserve is, and it is stated in the statute. It is basically to provide an orderly marketing tool for farmers when stocks are in abundant supply. It is a buffer stock, to provide farmers the chance to market in an orderly way so that we can meet our needs, both foreign and domestic.

In the past, I think that has not been the case. It was used too much as a price support tool, especially after the 1980 grain embargo. The reserve was simply opened up. The stocks went in there. It was a place to put them and that is the kind of thing that has to be avoided. The Farmer-Owned Reserve should not be used as a price support tool.

I would like to get to some specific recommendations, things that need to be done differently in a Farmer-Owned Reserve. Currently, there is a minimum and maximum quantity for the Farmer-Owned Reserve. Since the FOR is a buffer stock, the maximum quantity should be fairly small.

We have to remember that long before any of these Government storage programs ever existed, the market took care of carrying reserves forward in the marketplace through carrying charges. So the market will provide this. These reserve policies are in addition to what the market does. That is really the function of the market, to allocate supply through the year.

Some of the recommendations that we think need to be looked at include an established target for the quantity in the Farmer-Owned Reserve, and we think it should be 300 million bushels of wheat, 450 million bushels of feed grains. That is currently the maximum in the Farmer-Owned Reserve now.

We think that entry should remain at the discretion of the Secretary. There shouldn't be any special incentives to entry like there were in previous years. It should be a 9-month CCC loan, and then it should be eligible for the reserve.

And we think that once prices are above 135 percent of this market-driven loan rate, the entry ought to be closed. When the market is calling for the stocks, it shouldn't have to compete with the storage incentives of the Farmer-Owned Reserve to get those stocks.

The basic problem in the Farmer-Owned Reserve, as it has been over the last few years, is that release prices have been too high. Prices have to rise to too high a level before these stocks become available in the market. Demand is lost. Livestock herds get liquidated. Foreign buyers look elsewhere. Foreign production is expanded elsewhere.

That is really the basic problem with the Farmer-Owned Reserve, and we would suggest that at 140 percent of the loan rate that storage payments stop and these bushels become available to be marketed by farmers.

We also suggest that the full storage payments not be made up-front, that farmers be allowed to receive the storage payments as they are earned. If some payments have to be made up-front, that at least a small percentage—maybe no more than one-fourth of it—gets paid up-front.

We think the reserve period ought to be shortened to 18 months. This would make it more apparent that it is not a long-term storage program. The bushels should come in and they should go out.

CCC inventory—basically the same problem as the farmer-owned reserve. Resale is at too high a level. Demand gets cut off before any of those stocks become available to the market. The policy should be that we minimize the CCC inventory. With market-oriented policies we shouldn't have big forfeitures.

Certificates have been the tool to allow the Secretary to make the market-oriented policy of the farm bill work. I think if some of these changes were made in the reserve, some of the changes were made in the CCC resale, then certificates would not be needed really. However, we think they ought to be retained.

Those are some of the things that we think should be changed. Don't force the Secretary to improvise like he has had to do the last few years.

[The prepared statement of Mr. Lyons appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you very much. Mr. Keith.

**STATEMENT OF KENDALL W. KEITH, EXECUTIVE VICE
PRESIDENT, NATIONAL GRAIN AND FEED ASSOCIATION**

Mr. KEITH. Mr. Chairman and members of the subcommittee, the National Grain and Feed Association is pleased to be here today to discuss what we believe is one of the more important aspects of the 1990 farm bill.

Market-oriented changes made by Congress in the 1985 Farm Act, namely market-clearing loan rates and the advent of the generic certificate program, have done much to bring U.S. agriculture out of the doldrums of stagnant markets.

However, in continued pursuit of a more market-oriented agricultural policy, we think additional changes are very much needed in certain aspects of farm programs, including the Farmer-Owned Reserve and policies governing liquidation of CCC inventories.

In reality, had the generic certificate program not existed, the problems caused by the current Farmer-Owned Reserve and CCC cash sales policy could have been much worse and much more apparent and severe in the marketplace.

But the generic certificate program worked in such programs as "PIK and roll" and the Export Enhancement Program, and it greatly helped the United States respond to the surge in domestic and export demand that occurred following the passage of the 1985 Farm Act.

But now with CCC holding reduced levels of stocks and generic certificates, it probably will play a much more limited role in providing access to Government-controlled stocks. With it, their ability to overcome the structural impediments inherent in the existing FOR and CCC's cash sales policy are going to be diminished. Thus we think it is very timely for Congress to make changes that will better allow the FOR and CCC to complement the more market-oriented aspects of the 1985 Farm Act.

Problems with the Farmer-Owned Reserve—during the past decade, the Farmer-Owned Reserve has been used for two distinct purposes. First has been to supplement farm income through advanced storage payments. The second purpose has been to maintain adequate supplies for food security and to undergird the U.S. reputation as a dependable source of supply.

Unfortunately, these two objectives of the FOR can and have worked at cross-purposes with one another. The recent history of the FOR reveals that during periods when the market needed access to the stocks enrolled in the FOR to respond to increased demand, stocks could not be acquired readily.

One of the biggest problems with the FOR is its released levels. They are both too high and inflexible. Currently, USDA estimates that at the end of the 1989-90 marketing year, the United States will hold 494 million bushels of wheat. Of that, 150 million bushels will be enrolled in the FOR.

This wheat will be very difficult for the market to access, especially if we don't have generic certificates in the marketplace. That means that of the 494 million bushels of wheat, we will really have about 350 million bushels of wheat to serve market needs.

There have been many instances and situations where we have seen selected classes of wheat being in short supply, and in some

cases we have even had to import wheat even when that wheat was in the reserve. In corn and the feed grains, there are many examples. The two classic ones are in 1988 when we had a severe drought, and in 1983, again when we had a severe drought, reserve stocks were not pulled down by great amounts in response to market needs for those stocks.

Clearly, such examples provide ample evidence that stocks indeed can be trapped in the FOR, with market prices needing to rise to a level so excessive that the market finds alternative sources of grain supply, and the demand for U.S. grains can evaporate before we ever reach the release prices.

In terms of policy recommendations on the reserve, currently producers receive storage payments for FOR reserve grain 1 year in advance. We think that this is a disincentive for farmers to redeem reserve loans when release levels are reached because they have to repay this advanced storage payment.

We would recommend that this committee consider a program in which producers are paid in the same manner as commercial elevators on a quarterly basis after in fact storage has been earned.

Another option that we believe warrants consideration in the FOR is to eliminate the penalties the producer must pay when marketing grain that is not in release status. The promise, we think, of receiving storage payments remains a very strong incentive for producers to keep grain enrolled in the FOR.

A third option that we believe is necessary if FOR stocks are to be made generally more accessible to the market is to set FOR release levels at no greater than 140 percent of the county ASCS price support loan rate.

We also see some problems in CCC grain sales policies. We feel that CCC should be given flexibility to sell grain at much lower levels than they currently are able to do to serve market needs. We would recommend that CCC sales prices be set 110 percent of current loan rates.

On emergency reserves, Mr. Chairman, we have recommended that the 147 million bushel Emergency Food Security Reserve—some have recommended that it be combined with the FOR and be stored on the farm. We think such an idea is wrong and we strongly oppose it.

By its very nature, the Emergency Food Security Reserve is designed to supply wheat for Public Law 480 food programs and other humanitarian needs as deemed necessary. Frequently, access to those stocks stored in the emergency reserve is needed on a few days notice, and it is paramount that wheat stocks be designated for Emergency Food Security Wheat Reserve to be stored in commercial channels.

That concludes my testimony, Mr. Chairman.

[The prepared statement of Mr. Keith appears at the conclusion of the hearing.]

Mr. GLICKMAN. Thank you very much for your testimony.

Philosophically, I guess one of the first questions we have to get to is what do we want the reserves to accomplish? I think from what I see is Mr. Lyons and Mr. Pearson and perhaps Mr. Keith—although I am not sure you spoke about it as clearly as the first two—said that reserves are a buffer that protect us in shortages

and calamities in weather. Whatever we call it, reserves kind of have a contingency or emergency orientation to them.

Is that correct? Mr. Keith, does that characterize your point of view, or do you take a broader view of the reserves?

Mr. KEITH. I don't agree that it is necessarily just for emergencies.

Mr. GLICKMAN. Or contingencies.

Mr. KEITH. I think the buffer stock concept is accurate as what it was intended for; yes. But buffer stocks can easily get too large, and they become very burdensome and limit upside potential in the market.

Mr. GLICKMAN. Well, maybe it is how we define the term "buffer" because we have so many programs to deal directly with reducing production, but as a general proposition, I think historically the prime purpose of the reserve has been to buffer for contingency and unusual conditions that are not necessarily routine in that type of situation. Now, it has turned into other things, but that has been its fundamental purpose.

Then I see that Ivan's and the Farmers Union's position is that the reserve policy can basically be a part and parcel of a general domestic and international farm program as well in terms of trying to get supply and demand in some degree of international order, and therefore it would operate in a much broader context than just in a buffer stock.

Is that a fair statement?

Mr. WYATT. Yes. I think that was very close to what we were thinking of. It is very obvious that some years we can produce big amounts of grains and other years not so much, and that is the reason we need to have some type of a program to level this production out.

And these reserve stocks work much like a governor on an engine, that when in times of shortage, you can kick it in and maintain a stable supply out there. Your consumers feel comfortable, but the farmers don't have to suffer through this boom and bust situation of the years of good harvest you get virtually nothing, and then years when you don't have any grain to sell, the prices are very high. So a buffer, I guess, is a proper term.

Mr. GLICKMAN. Now, would you all agree with the characterization the Farmer-Owned Reserve is a depressant on the marketplace irrespective of whether reserves are actually released or not? Is that a given or not?

Mr. PEARSON. Mr. Chairman, I don't think it makes a difference where that reserve is at, whether it is farmer-owned or whether it is in CCC storage or commercial storage. If it is too much, it can be a depressant. We look at it from a buffer standpoint.

I think it does a couple of things, as grain moves from the farm—at least it does for us. One, if the market prices are depressed, you can take that loan until that price comes back up some. So, it somewhat evens out that market price a little bit.

The other thing it does is that it provides for farmers a more orderly way of marketing grain. They are very busy in the fall, and they can put that in storage, maintain a cash-flow with the loan and move that out of storage sometime later in the year.

But regardless of where that grain is at, it is going to be a depressant on the market if it is too large.

Mr. GLICKMAN. Mr. Wyatt.

Mr. WYATT. Yes, I would like to respond to that. First of all, I really don't understand why it makes a difference where the reserve is at, whether it is in commercial storage or farmer-owned storage.

Apparently, the Farmer-Owned Reserves are the most efficient because the farmers receive several cents a bushel less for storage costs. They don't charge an in-and-out charge. So to me, the farmer-held reserve is the most efficient way apparently, because it is much less costly to the Government.

I think, second, the only reason it is having a detrimental effect on the market is that—and the figures are that in 1989 we drew out 1.5 million metric tons from those reserves, and plan on in 1990 to draw out 2 million tons.

It is that—maybe unethical is too strong a word—but unethical use of those reserves to manipulate the markets to hold the market prices down and not to let them respond to the markets, why it has had a short-term effect, but the long-term effect is that people get to thinking that, "Well, if we just hold off, the prices will—the reserves will come out and they will hold the price down again."

So the short term is bad, but it also has a long-term effect when the Government starts pulling those out.

Mr. LYONS. But I think that is the point, Mr. Glickman. At some point, those stocks are going to come out. So I mean those stocks haven't disappeared. They have not been destroyed. At some point, they will come out, and that is the price-depressing effect.

Sure, in the short-term, you isolate something, put it away from the market, prices will come back up, but they never disappear. They have to come back sometime.

Mr. GLICKMAN. Mr. Keith, how do you respond to Mr. Wyatt's suggestion that the Farmer-Owned Reserve is a more efficient way of storing grain, that there are no in-and-out costs and that kind of thing—lower costs?

Mr. KEITH. Well, the payments for Farmer-Owned Reserve have always been, I think, perceived as an incentive to the marketplace to store more than it would otherwise. The function of the marketplace is to store from one crop to another, and that is why there are carrying charges in the futures prices that we see on the markets.

But the \$.26.5 a bushel that is paid to farmers is a storage subsidy that they can use to pay for storage on the farm or in commercial facilities. Yes, it is a level that is determined as a fixed amount as opposed to the commercial storage facility rates that are charged to other commercial customers or commodity credit that are determined on a competitive basis and a bid basis with elevators.

Those are market-determined rates, and the commercial elevators are storing grain under totally different situations than reserve grain. They don't have guarantees of payments for 3 years on the grain, and there are many other differences in the reserve

rates and payment rates and CCC storage rates in commercial facilities.

As a matter of fact, I have a white paper with me here today that I would like to submit for the record.

[The information follows:]

June 1, 1989

The Commercial Warehouse Industry -- Its Role in CCC Operations and Farm Programs

A White Paper By The National Grain and Feed Association

The federal government's farm programs periodically result in the U.S. Department of Agriculture's Commodity Credit Corporation acquiring grain and storing it in commercial grain elevators. While current market conditions have resulted in reduced inventories of CCC-owned grain and less likelihood that CCC will acquire grain than has been the case in recent years, there still are several Congressionally mandated reserves of grain that CCC is required to store. These include the Emergency Food Security Wheat Reserve and Feed Grain Disaster Reserve, both of which consist of CCC-owned grain stored in commercial elevators.

This white paper provides an overview of the conditions under which CCC takes ownership of grain, how it stores it once it does and the rates it pays for these storage and handling services.

How CCC Acquires Ownership of Grain -- The Non-Recourse Loan

Under federal farm programs, producers can obtain nine-month price support loans at the start of the crop year for those grains produced on acreages being enrolled. In exchange for the cash loan, producers pledge their crop as collateral. Producers have the option at any time during the loan period to repay the loan and retain title to the collateral. At loan maturity, producers have four options: 1) Repay the loan with any applicable interest; 2) Repay the loan at the market price with generic commodity certificates without interest; 3) Forfeit to CCC the grain pledged as loan collateral; or 4) Enter the grain into the farmer-owned reserve if one is in effect for that commodity. The choice is entirely the producers', and is made on the basis of grain market prices and other factors at the time loans mature.

A similar situation exists for grain enrolled by producers in the farmer-owned reserve. At the end of the reserve loan period, usually three years, the producer has the option of repaying the loan with any applicable accrued interest or forfeiting the grain collateral to CCC.

How CCC Stores Its Grain

The federal government owns no storage facilities. Instead, like farmers and grain companies, CCC stores grain it acquires in commercial elevators, both privately and cooperatively owned. This is consistent with the CCC Charter Act's requirement that CCC utilize normal and customary channels of the trade.

Not just any elevator can store CCC-owned grain. As a prerequisite, commercial elevators are required to enter into individual contracts with CCC -- called a Uniform Grain Storage Agreement (UGSA).

Warehousemen also must have approved UGSA contracts before being eligible to store price support grain for producers. By meeting the requirements necessary to obtain a UGSA contract, the commercial warehouse industry serves a critical role in federal farm programs by providing producers with a nationwide network of 6,800 warehouses where they can store their grain collateral used in obtaining price support loans even if they do not have on-farm storage space available. The existence of the contract informs producers that the elevator has met certain standards of good business practice. Likewise, it protects CCC and producers by preserving the quantity and quality of price support grain that may be redeemed by the farmer or forfeited to CCC.

The UGSA Contract – What It Is

The UGSA is a government contract entered into annually between commercial elevator operators and CCC. It establishes the terms and obligations that will apply to warehousemen storing CCC-owned grain. Importantly, the mere signing of a UGSA contract between CCC and an individual warehouseman does not obligate CCC to store grain in that warehouseman's elevator. It merely indicates that the facility stands ready to serve CCC if and when needed.

The UGSA contract: 1) establishes the terms under which storage services will be provided to CCC; 2) defines the warehouseman's obligations to maintain the quantity and quality of grain for CCC; 3) protects CCC's grain assets; and 4) establishes the rates at which the warehouseman will store and handle CCC grain.

The UGSA Contract – What It Requires

Every warehouseman signing a UGSA contract is required to meet several important financial standards and physical facility requirements to protect the value of CCC's grain assets, which also protects farmers storing price support grain.

Financial Standards: Stringent standards apply to the financial condition of UGSA warehouses, ensuring facilities storing CCC-owned or loan grain are financially sound. These requirements include:

- **Maintaining a minimum net worth**, computed at a rate of 25 cents per bushel of storage capacity, with a minimum of \$50,000 and no maximum.
- **Furnishing bonds or letters of credit** issued by insured banks or federal government debt instruments to match any deficiencies in net worth exceeding \$50,000. For a 1 million bushel warehouse, bonding costs amount to an estimated \$750 each year.
- **Submitting annual audits, review audits and financial statements** to CCC prepared by a certified public accountant or commission firm if authorized by CCC. For a 1 million bushel warehouse, the cost of preparing financial statements is approximately \$3,500 annually.
- **Maintaining daily position records** for not less than five years of each kind and class of grain stored and loaded out.
- **Maintaining a daily long and short net market position** as of the close of business each day.
- **Applying any insurance** carried by the warehouseman on company-owned grain to CCC-owned grain without charge to CCC. The UGSA also obligates the warehouseman to insure all price support grain stored in the facility at its full market value at the warehouseman's expense. For 1 million bushel warehouse, this amounts to \$8,000 annually.

Facility Standards: UGSA warehousemen are required to comply with the following standards that apply to the structural integrity of their elevator facilities. Combined, these financial and facility standards cost UGSA warehousemen 2 to 4 cents per bushel each year:

- **All facilities are subject to unannounced inspections** by CCC warehouse examiners at least annually. The 50 percent cost of warehouse examinations amounts to at least \$600 a year for a 1 million bushel elevator.

■ **UGSA warehousemen are charged a user fee** amounting to 50 percent of the cost of performing the warehouse examination. CCC examiners check the physical soundness of the storage, loading and receiving capabilities, and measure grain inventories. Warehousemen are liable to CCC for any deterioration or loss of grain quality caused by unsatisfactory storage or handling practices.

■ **Warehousemen adhere to an extensive list of Standards for Approval** that require specific operational, safety and other procedures.

Guaranteeing Grain Quality and Quantity: The UGSA contract requires warehousemen to maintain the quality and quantity of grain stored for CCC as specified on the warehouse receipts. CCC assesses stiff market discounts and/or penalties against warehousemen for any quality deterioration. Terminal warehouses are obligated to deliver the same quality of grain deposited regardless of how long the grain was stored. Contract cancellation and civil and criminal penalties apply if there are any discrepancies concerning the quantity of grain stored for CCC. Warehousemen operating under UGSA contracts also provide special services, such as drying, cleaning and conditioning of grain, upon request by CCC.

Loadout and Delivery: Warehousemen are required to load out grain promptly at CCC's request. The contract prohibits commercial warehousemen from discriminating against CCC when loading out grain.

The UGSA Contract -- What It Doesn't Do

There are several important things the UGSA contract does not do.

■ **It does not pay elevators unless and until CCC uses the storage and handling services.** The UGSA contract is not an entitlement program. The contract terms are activated, and payments made, only if and when CCC chooses to utilize the storage and/or handling services of the elevator.

■ **It does not guarantee CCC-owned grain will be stored, or if stored, for how long.** The mere existence of a UGSA contract signed by CCC and the warehouseman does not guarantee that CCC-owned or price support grain will be stored in the facility. If CCC-owned grain is stored, CCC has the option of removing grain immediately (within 10 days) by merely giving notice. This differs from most commercial tariff rates charged by elevators that require grain to be stored for three months or longer. In addition, this lack of guaranteed occupancy is far different from the three-year or longer storage payment the producers receive for grain stored in the farmer-owned reserve.

■ **It does not require payment in advance.** Most contracts involving storage of grain for commercial customers require payment up front, before delivery is made and the service is performed. But under the UGSA, CCC pays only for the previous quarterly period for which services already have been rendered, and even then there is an additional 15-day grace period provided. There have been numerous cases prior to CCC's inclusion under the Prompt Payment Act in which CCC payments were not made for months to more than a year after they were due, placing warehousemen in a precarious cash-flow position. It was not until April 1987 that CCC began to pay interest on delinquent payments.

■ **It does not allow warehousemen to "rotate" and market reserve grain.** Producers have the option of removing and marketing grain pledged as collateral for farmer-owned reserve loans 60 days prior to replacing it with a like quantity of new-crop grain. This allows producers to capture generally higher pre-new-crop prices, a privilege warehousemen do not enjoy.

UGSA Storage Rates

Currently, rates paid to commercial warehousemen storing CCC-owned grain are established through an "offer-and-acceptance" system. The 6,800 UGSA warehouse facilities nationwide competitively submit sealed rate offers to CCC. When doing so, warehousemen fully realize they are bidding against all other warehousemen, both locally and nationally, for the chance to store CCC-owned grain. Warehousemen are well aware that CCC has numerous other options to reduce the cost of storage, including:

- entering simple contracts to transfer the location of CCC-owned grain to another elevator (known as swaps) without CCC incurring additional expenses associated with physically moving grain.
- cataloging and selling CCC-owned grain for cash or in exchange for generic commodity certificates.
- utilizing grain stored in warehouses with "higher rates" for CCC's ongoing export and domestic donation programs.
- physically loading out the grain and transporting it to a warehouse offering lower rates.

This highly competitive bidding process ensures CCC pays the lowest commercial rates available.

But there's one other protection: CCC reserves the right to reject any rate offers it deems excessive, an authority it has used frequently.

Importantly, storage rates vary depending upon the type and location of the facility. For instance, terminal elevators in futures market delivery positions with "high" rates do not store grain for any length of time; rather, their function is to provide space to fulfill delivery obligations at the end of the futures contract months.

It is essential that any rate-determination system utilized by CCC recognize:

- the differing economies of scale among various types and sizes of elevator facilities. Initial capital investment costs and overhead can be extremely high for high-throughput concrete facilities having unit train or barge loadout capabilities. On the other hand, annual operating costs can be higher per bushel for smaller facilities handling lower volumes of grain.
- the different inherent values of grain storage. Simply put, grains -- and consequently grain storage and handling services -- are worth more at some elevators than others depending upon its geographic location, its position in the grain marketing channel, transportation availability and supply/demand conditions in individual markets.
- the importance of allowing supply and demand conditions to operate in the storage marketplace. CCC historically has benefitted from lower rates when its stocks are at reduced or more normal levels and surplus storage space exists. But it also is important for CCC to recognize that when storage space is tight it must expect to pay higher rates as dictated by supply and demand for storage and handling services. It is this response to market signals that enables the warehouse industry to react by building or renovating the needed storage space.
- the regional differences in storage costs. Costs of providing storage services can differ dramatically depending upon climatic conditions and the quality of grain harvested by the producer.

In temperate, humid Southern climates, grain may require frequent conditioning, "turning," fumigation, aeration or other techniques to maintain quality. For instance, a 1972 USDA study found that average variable costs of storing grain in Southeastern states exceeded the national average by 6.6 cents per bushel in 1972 dollars.

Other Costs of Doing Business

Commercial warehousemen also are subjected to numerous additional business costs not incurred by producers storing reserve grain on the farm. For instance:

- all warehouses are required to comply with the Occupational Safety and Health Administration's new grain handling safety standard. The costs to a typical country elevator exceed \$40,000 per year, while costs to terminal and export elevators are significantly higher.
- all elevators are required to comply with OSHA's new limits for employee exposure to grain dusts. This entails additional costs in terms of equipment and personal protection devices.
- elevators incur associated business labor costs, including insurance, workmens' compensation, health insurance, life insurance, etc.
- elevator company's pay assorted state and local taxes, including personal property taxes and sales taxes that apply to commercial, non-farm businesses.
- warehouses with a storage capacity exceeding 1 million bushels are required to install expensive grain dust control equipment to meet federal clean air standards.
- warehouses pay normal commercial interest rates to finance construction or renovation of storage and handling capabilities, unlike government-subsidized interest rates periodically offered to encourage building of on-farm storage.

Conclusion

CCC's use of commercial UGSA warehouses to store its grain is not an entitlement program. Nor is it a subsidy for commercial warehouses. Rather, it is an efficient commercial service contract that provides CCC with ready access to the highly efficient, adaptable and competitive U.S. grain storage and marketing infrastructure -- a nationwide network of reputable warehouses operating under specified standards that competitively bid for the opportunity to store CCC-owned grain. It ensures the government locates its grain in commercial facilities with ready access to railroads, truck and waterway transportation so CCC can move its grain efficiently and at the lowest cost commercially available. It provides CCC and producers with a sound, financially stable grain marketing and storage system to store and later release into the market grain pledged as collateral for price support loans under the farm programs.

The commercial grain warehouse industry is extremely proud of its system, which serves the grain storage, marketing and shipping needs not only of CCC, but the American farmer and the many commercial companies that utilize grain storage and handling services. The industry has stored and shipped billions of bushels of grain for CCC under the UGSA contract, thereby enabling CCC to efficiently manage its grain inventory and maintain the flexibility needed to adapt to fluid market conditions. As such, the UGSA has proven to be indispensable for accomplishing CCC's grain storage and shipping needs while at the same time providing access to the most cost-competitive storage and handling services available.

Commercial Versus On-Farm Storage - A Comparison

Recently, there has been some misunderstanding regarding the rates paid by CCC to store its grain versus the rates paid by the government to producers to store price support grain on the farm. As alluded to throughout this paper, these costs are not directly comparable. The following table illustrates some of the major differences in services provided by commercial warehousemen storing grain for CCC under UGSA contracts compared to producers storing grain as collateral for price support loans on the farm.

	Commercial UGSA Warehouse Storage	On-Farm Storage
1. Actual Storage Rate Paid by the Government*	Commercial Wheat** Corn 86.3/1000 cents/bu./day (Equivalent to 31.5 cents/bu. if stored entire year.) 84.7/1000 cents/bu./day (Equivalent to 30.9 cents/bu. if stored entire year.) Terminal Wheat** Corn 83.8/1000 cents/bu./day (Equivalent to 32.4 cents/bu. if stored entire year.) 90.1/1000 cents/bu./day (Equivalent to 32.9 cents/bu. if stored entire year.)	26.5 cents/bu./year (Payment for reserve grain and nine-month loan grain that is extended or moved into the reserve.)
2. How Rates Determined	Competitive bidding among 6,600 UGSA warehouses. CCC retains right to reject any rate bid submitted by warehouseman. CCC reserves right to not store grain in warehouses with "higher rates." CCC may choose to transfer title to its grain in-store through calling sales or swaps of grain stored in "higher-rate" warehouses first. CCC's non-acceptance criteria vary and make it difficult to plan more than one year at a time.	No competitive bidding Payment rate predictable.
3. When Storage Paid	Typically 15 days after the quarter in which storage services performed. Only since April 1, 1967 has CCC paid interest when storage payments are late.	Annually in advance, before storage begins.
4. Time Commitments on Storage	No obligation for CCC to store grain in facility. No guarantee on length of time in storage if and when CCC-owned grain is stored in the warehouse. CCC grain can be removed on 10 days' notice at any time. No reserve grain rotation privileges.	Storage occupancy is determined by producer. ■ 3 years or more for reserve grain, at the option of the producer. ■ Producers enjoy 90-day "rotation" privileges on reserve grain, allowing them to remove and market reserve grain when prices are higher prior to replacing with new-crop grain.

* From CCC data. Limiting reflects storage rate estimates paid by CCC on grain actually in-store at elevators. Rates listed are 2-cents/bu./yr. less than the national average for all warehouses, the latter of which does not take into account where the grain actually is stored.

** Average storage rate for wheat in Food Security Wheat Reserve is 80.5/1000 cents/bu./day (equivalent to 29.4 cents/bu. if stored entire year), which reflects some assurance from CCC that it intends to store the wheat for an entire year although it is not obligated to do so.

	Commercial UGSA Warehouse Storage	On-Farm Storage
3. Obligations for Delivery	Obligated to deliver quality and quantity of grain stored whenever requested by CCC. Terminal warehouses required to provide FGLS Official weights and grades at no cost to CCC. CCC is allowed to use the terminal elevators' capability to upgrade the value of its inventory within certain tolerances through computer blending of warehouse receipts. Country warehouses required to provide UGSA-approved weights and grades at no cost to CCC. Market scale discounts apply for delivery of lower than receipted quality.	Obligated to maintain quality and quantity but government penalties apply only if loan collateral is forfeited to CCC. No obligation to pay for weights and grades. CCC discounts apply for delivery of lesser quality if grain forfeited (but discounts historically have been less than market scale).
4. Obligations to Facilitate CCC's Grain Sales	Obligated to deliver grain of the quality and quantity listed on the warehouse receipt when CCC transfers title to grain in-store. Grain stored commercially is accessible for quick movement into market channels to meet CCC's needs; generally with rail- or barge-loading capabilities.	Farm-stored price support grain exempt from CCC sales, unless and until producers decide to redeem loan or forfeit grain to CCC and delivery is made to warehouse.
7. Financial Requirements	Required to meet net worth requirements (25 cents per bushel, \$50,000 minimum, no maximum). Deficiencies in net worth must be met through bonding or irrevocable letters of credit. Required to submit annual financial statement and a review audit by a CPA or licensed independent public accountant. Maintain daily position record of grain stored. Maintain daily long and short net market position. Required to pay 50 percent of the cost of annual warehouse examinations. Required to insure CCC grain if other commingled grain is insured.	No financial net worth requirements apply, although producers are liable for fulfilling their loan obligations. No financial statement required. No records required. No examinations required. No grain insurance required.
8. Other Regulatory Requirements	Required to comply with federal and state safety and environmental regulations (including EPA Clean Air Act; OSHA grain handling safety standards; OSHA permissible employee health exposure limits; OSHA hazard communication standard; OSHA general industry standard, etc.).	Storage facilities on-farm generally are exempt from federal and state safety and environmental regulations.

Mr. GLICKMAN. I just want to make a couple of comments because I want to yield to my colleagues.

When I schedule these hearings, some of my colleagues—none of whom are here—say, "Why are you doing this? This is an irrelevant subject." I think this may turn out to be a big sleeper issue in the 1990 farm bill, much bigger than what the target price is going to be or what the loan rate is going to be because it will determine who controls supply of grain on the market, how it is released, how it is marketed.

Mr. Lyons mentioned at the end of his statement that we may need to take some of the burden off the Secretary, and I have been critical of the Secretary of the use of authority on the certificates, as you know, but I think it goes to the underlying question as to the power of the Secretary, the power of the marketplace and the power of the producer to control supply marketing sales.

These are pivotal questions in terms of how we relate to the rest of the world in the 1990 farm bill, and they have not gotten the attention they needed to get since we wrote the 1977 farm bill. I think it was really the last time we looked at the issue, and with the world changing so dramatically, I think that we are going to spend a lot of time on this one.

It also relates to another issue, and that is the one to some extent those in this room know that I have raised a little bit of flack with the Secretary on the EEP program, particularly with respect to the granting of bonuses to one particular, rather disloyal, citizen of the United States.

But the fact of the matter is that it relates to the underlying issue of what is the role of the Department of Agriculture in managing farm policy. It has changed dramatically in the last 15 years in this country, and it has done so to some extent with congressional encouragement. I am not going to sit here and blame Dick Lyng or Clayton Yeutter for all of that.

But we have opened the door to giving the Department enthusiastically much more power than it has ever had in the past, and some of the things that we are talking about are just totally inconsistent with each other. Giving the Department incredible power on EEP and sales overseas and authority on reserves, you can't operate farm policy that way. One foot is on the brake and one foot is on the accelerator.

But at the same time, my feeling is that there has been a tendency by this Secretary and this administration—the previous one more than this one—to use their authorities so focused on exports that the unintended or intended effect is to lower local prices at the local elevator and in effect to reduce farm income in the process.

I don't know where we come down on this thing, but I am saying intellectually this is a very important issue as we write the next farm bill, and your testimony is very useful in that respect.

We had some testimony last time from others that talked about ways of maybe combining the reserves that we have, but limiting them to more of a buffer-type effect than what others might say. We have the idea that Ivan brought today, which is using the reserve much more aggressively.

But I appreciate your testimony, and this will be a key part of this subcommittee's role as we define what this new farm bill is going to look like. So now I will be glad to yield to my distinguished Indiana colleague Ms. Long for as much time as she wants.

Ms. LONG. That was smart, Mr. Chairman. I would like to direct a question to Mr. Pearson regarding Indiana in particular.

When I was home over the weekend, I read some figures about the financial condition of Indiana farmers. In the last year, the financial position for Indiana farmers has declined.

First of all, I would like to ask if that is correct with your assessment.

Mr. PEARSON. Congresswoman, when you say decline, you mean getting better or getting worse?

Ms. LONG. Getting worse.

Mr. PEARSON. Getting worse.

Ms. LONG. The figures came from the Indiana Farmers Union that the financial position of Indiana farmers during last year declined.

Mr. PEARSON. Well, I think when you look at last year at the drought, that hit a lot of farmers pretty hard, but I don't think we really are out of step that much nationally as to what is happening when the look at the depth of agriculture coming down.

So I would have to say at this point that although there are still some farmers in trouble, and don't make the mistake that there aren't. There are still some with a pretty high debt load, but on the average that debt load has come down.

I think we are pretty much in step with the national when you look at the reduction of the national debt of some \$60 billion in agriculture.

Ms. LONG. The figure that I saw or the figure that was provided was that only about 10 percent of Indiana farms would be considered top financial positions. In other words, 90 percent are not at risk of folding necessarily, but that their financial position is precarious. And I think that that signals some very serious problems down the road unless everything works well in the farm economy.

The question that I would like to direct to you in addition to your assessment of the Indiana farm economy is in your judgement, given that we saw some improvements in the agricultural economy in Indiana during the serious downturn in the first part of the 1980's, and then since the 1985 farm bill we have seen some improvements and then it was followed by a downturn in the last year, and given your criticisms of grain reserve policy in the United States, what relationship do you see between our grain reserve policy and what might be happening to Indiana farmers and farmers across the country?

Mr. PEARSON. I think when you come back and look at the total reserve, if it is too big, it is going to depress prices. Now, the comment was made—

Ms. LONG. If it is too—

Mr. PEARSON. If it is too large. It doesn't make a difference where it is held, whether it was like the comment that was made in the prior testimony of under a pyramid or where. If it is there, it is going to depress prices somewhat.

I think one of the comments made was the PIK certificates of from a certain vantage that they were beneficial, and they were because if you look at animal agriculture in the last 2 or 3 years—well, with the exception of last year, really—with the PIK certificates, we were bringing grain back into livestock utilization at a very low price which we saw nationally.

The corn-hog ratio for hogs which you carry into other livestock is some place between 30 and 50 percent. It is unprecedented. So for those livestock producers, that certainly helps him.

We have gotten the reserves down, I think, to where they are at workable levels. The question has been raised why have prices not come back up more than a half? I think you can't only look at the United States. I think you have to look at what is happening globally.

The production is out there, and we hear our exporters or grain traders say they could have imported some grains this year that they didn't because of the political repercussions that might come from it.

But I think when you look at where we are at today with the grain reserves, and if we can keep it to those levels and get the loan price where we can move it in and out, I think that is going to be beneficial to us farmers in the long run.

Ms. LONG. Mr. Wyatt, could I address the same question to you because I think I will get a slightly different response.

I don't know what the figures are for the entire country, but I am concerned when I see that we have experienced a downturn again in Indiana, and only about 10 percent of the farmers in Indiana are in a good solid financial position.

In your assessment, what has Federal Grain Reserve policy—how has it affected the financial position of farmers across the country?

Mr. WYATT. I think that first of all the reserve question part of the program is anytime you draw out of these reserves like it has been done, and depresses the price, you are going to have an effect on those people producing those grains. But again I would have to go back. Let's don't necessarily kick the reserves. Let's talk about the people that are abusing the reserve.

Now, to get to the part of your question about farmers and how financially well-off they are, let me say that the reason that I said the manipulation of the market downward is very important is that I have been farming for a good many years, and I can recall it used to be that I would spend about \$2 to generate \$3 income. Let's say it is just roughly 60 percent.

Nowadays, it is more like \$4 to generate \$5, and I am not heavily indebted like most farmers. So I am on little less shaky ground because I don't have to go to the bank to pay a note off.

But with the kind of expenditure to generate that small of a percentage of income, you can see—if you have good years, sure you can sail along on thin ice pretty well. But if you get out there and you crash through a drought or a freeze, you have a major loss. If you have to go to the bank to borrow any money to plant the next year, then you are beginning to get into deep trouble because then you have the added expenses, interest and so forth.

So again, we are skating on thin ice. Those of us who got inner straits and interest to pay and so forth, their predicament is a

much more tentative concern to people. So it is just how long can our luck hold, I think.

Ms. LONG. Thank you.

Mr. GLICKMAN. Thank you. Mr. Jontz.

Mr. JONTZ. Thank you, Mr. Chairman. I will ask this question to any who wish to respond.

Congressman Dorgan began our hearing this morning expressing his concerns to when reserves are up, prices are down, but now reserves are down and prices haven't gone up. I wonder if any of you want to offer your comments to the Congressman in response to the observations that Congressman Dorgan made and other members of this subcommittee have made also.

Mr. KEITH. I will respond. I think that the gentleman at the end of this panel talked about just 1 minute ago, in that we have global market place today. Part of the response and price is the anticipated supply response from around the world. And today, we are not relying on just the United States to supply export markets. We see many other countries are entered in to the export markets and can readily increase their supplies in a years time.

If we see a rally in the first 6 months of our marketing year, we will see acreages go up in the southern hemisphere. So the market in the world has an ability to respond that it didn't have 10 years ago.

We have also seen some increase in use of grains for feed grains for animal production that permits more flexibility in the utilization of grains. I mean grains utilization can go up and down.

Demand can be responsive also to price, and those are at least two reasons why you have not seen the response in price that you might otherwise expect with this level of stocks.

Mr. WYATT. I might just respond that in my oral statement, we supported or agreed basically with what Mr. Dorgan was saying, that the cause of low prices was the reserves being drawn down.

Mr. PEARSON. May I make an additional comment, Congressman? I think if we go back 2 or 3 years ago, we did see corn prices down at \$1.50 and \$2. That was during the PIK certificate times as well. The beans were also down to \$4 and \$4.50. Those are coming back up some.

I think the other thing, too, and I think we have talked a little bit about a market-oriented Farm Program, at least in my comments, and if you have a comprehensive grain policy, those are in conflict with each other.

If farmers really want a market-oriented program, that means that we are moving back into the area or the arena where we have to learn to price what we are growing. We had beans this spring. We could price those beans at \$7 or \$8. They are coming out of the fields today at \$5.50, but just because they are at \$5.50 at harvest time doesn't mean the good producer couldn't price those at a very profitable level.

Corn is the same way. Corn is down in our area \$2 to \$2.50 or maybe a little less. But yet, if we had done a good job marketing last fall, we would be selling corn for \$2.75 to \$3.

That is the tradeoff with that. That isn't going to be level pricing, but yet if you give farmers the opportunity to price during the year, I think they will do a pretty good job.

Mr. JONTZ. I have no additional questions, Mr. Chairman. I will yield back the amounts of my time

Mr. GLICKMAN. Mr. Volkmer.

Mr. VOLKMER. We were discussing a question that I had thought about that the chairman addressed briefly, and I would like to know if you have an answer, I would like to get it on the record.

Your feeling on, say, combining at least like the emergency reserve programs, security reserve programs, and tightening those up as to the specific uses that they could be used for, which wouldn't amount really to—in other words, related at all to the loan rates or anything, but only for a specific purpose.

I feel that we should have a drought limit amount that could come out of that reserve to the amount reduced production because of drought or something like that. Do you have any comment on that?

Mr. LYONS. I think the reserves that are in the law—the Food Security Wheat Reserve—I think that is very specific as to what that reserve can be used for, and then this disaster reserve, it is a discretionary reserve, but I think that is very specific as to what that can be used for. The Department can designate a portion of CCC inventory to be that disaster reserve.

So I think that there are some stringent guidelines on some of those.

Mr. VOLKMER. Couldn't we combine those?

Mr. LYONS. I suppose you could.

Mr. VOLKMER. Say the total amount is only for these purposes? Do you have any objections to any of that from any of you?

Mr. LYONS. The only comment I would like to make is that I think you need to remember to keep the reserves small, and then make it very specific as to what those stocks can be used for.

Mr. VOLKMER. I agree with that. Personally, the way I see what we have been doing in the past, if we put the release out of the CCC stocks at a low rate—what I mean is that I know there are suggestions in here that are related to 110 or 120 percent, maybe, of the loan rate. You put it at that low rate and keep it out there, you are going to keep price levels down.

That means my farmers really are the ones that are basically being hurt by that reserve, not the consumers, not the other people out there, not the grain companies, not the importers that buy our wheat or corn or anything else. It is the farmers.

Mr. LYONS. I could agree with that if we had huge stocks, and I guess what I am suggesting is that hopefully we will have a market-oriented policy where we won't have huge stocks in CCC inventory or in the Farmer-Owned Reserve.

Mr. VOLKMER. What size would our stocks in wheat be if we hadn't had a drought this year?

Mr. LYONS. You mean if we had a normal crop?

Mr. VOLKMER. We had a normal crop in Kansas and Oklahoma and Texas.

Mr. LYONS. Well, we would have had maybe another 300 or 400 million bushels in production. We probably would have had a little higher use, so perhaps I don't know exactly. I am just speculating. Maybe stocks would have been carried over with a couple of hundred million bushels higher than it turned out to be.

Mr. VOLKMER. And if we hadn't had the drought in 1988, we would have had a lot more corn, beans, and everything else, wouldn't we?

Mr. LYONS. Sure.

Mr. VOLKMER. What I am trying to get at, sir, is we can't rely on droughts to draw down all the time, and we had huge reserves back in the 1970's and huge carryover in the 1980's. We have built up stocks tremendously. That didn't help prices for my farmers.

Do you agree with that or do you think it helped prices?

Mr. LYONS. Sure.

Mr. GLICKMAN. Sure what?

Mr. LYONS. We had terribly big stocks. We had loan rates at high levels, and that contributed to—at higher than market clearing levels, and that contributed to those stock building.

Mr. VOLKMER. And we have turned that around with EEP and programs?

Mr. LYONS. Exactly, yes.

Mr. VOLKMER. Now, the question that confronts me as I see what the administration is driving for and some people in agriculture driving for is this market-oriented agriculture.

As I see that, and if I see a reserve out there on top of that market and a reserve policy that says that that reserve can go out at any price, I see very low prices during times of plenty. I see high prices during shortage times, and I see it more like this.

Do you agree or disagree with that?

Mr. LYONS. Well, I think if you have the reserve structured so that it can flow in and out, I think it should take the extreme peaks and the extreme valleys off of that.

Mr. VOLKMER. How do you do that with a market-oriented program that says, "We are going to have loan rates down to—say on wheat—\$2.25, \$1.90, and on corn we are going to have it at \$1.50 and \$1.75?" Now you tell me if you are going to release that corn at \$2, and you are going to release that wheat at \$3, you tell me how you get the prices up above that?

Mr. LYONS. I think one thing we ought to point out is that we have a real opportunity here because we do have the stocks down. You are going to be at very minimal levels of wheat in the Farmer-Owned Reserve as we do this farm bill and probably for feed grains as well. So you don't have that overhanging the market sort of influencing what you can do politically.

That was the problem in 1985. You had such big stocks so you could never address this problem. I don't know if I have answered your question very well, but I think you have a chance to try to come back in and do some of the right things here.

Mr. VOLKMER. Well, maybe you can understand my concerns about going to a completely market-oriented type of Farm Program at the same time having a reserve policy. That depresses the market constantly.

And the second thing that bothers me is that we have a market-oriented agriculture programs, and then we don't have the reserve policy, can you tell me what happens in times of drought like in 1988? What happens then?

Mr. LYONS. Well, we all have to admit that the stocks that we had were tremendously helpful, that we were able to basically keep

demand up, both foreign and domestic because we had such huge stocks.

So those were in many ways earlier a curse. In 1988 and 1989, they became a blessing in that respect.

Mr. VOLKMER. Thank you, Mr. Chairman

Mr. GLICKMAN. Just a brief final question and unrelated point.

Mr. LYONS, if you were writing the 1990 farm bill as it would relate to the EEP program, from your experience, what do you suggest that we do in terms of making any changes in it or tightening it up?

Mr. LYONS. I guess I would answer it this way. I think the EEP has done so many good things. I guess I would be very leery if Congress would institutionalize the thing.

Now, I haven't answered your question about specifically how it could be improved sort of in its current state, but I think Steve McCoy has put a little paper together that has got, I think, some very good suggestions in terms of allowing the export and the opportunity—the buyer and the seller to make some decisions about shifting destinations and shifting classes and things like that.

I think those are some very important points that ought to be looked at. Make it as market-oriented as possible understanding that the USDA is going to make the ultimate decision. I think there are some things on the operational kinds of things.

Mr. GLICKMAN. It strikes me, and I am a supporter of it, and I have pushed it in a lot of areas and will continue to do so, but it strikes me that we are a mini-Federal Reserve Board in the making with the EEP. Truly, we have an entity not heretofore contemplated in terms of farm policy.

Mr. LYONS. It is difficult to change that once that gets institutionalized.

Mr. GLICKMAN. But even the Federal Reserve System now is allowing their minutes to be published after the meeting, and what I sense from the Department is that there is this incredible reluctance to make any part of the process public, and I understand the reasons why. You don't want your competitors to know what you are doing.

But if we are going to go down that road, then we have to accept the consequences with it, and that is call it what it is and define it. I don't think we want to do that either.

Mr. LYONS. No. I agree

Mr. GLICKMAN. All right. You weren't asked to testify on this, but you were in the Department during the formative years of this when it was used effectively. I can't argue with that.

Mr. LYONS. It helped accomplished some objectives. Exports grew. We got stocks down. But now you have to back up from it and think about what does it mean down the road

Mr. GLICKMAN. We thank all the witnesses for being here. This has been an excellent hearing. The hearing is adjourned.

[Whereupon, at 12:20 p.m., the hearing was adjourned, subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

TESTIMONY OF BYRON L. DORGAN OF NORTH DAKOTA
CONCERNING GRAIN RESERVE POLICIES

before the
WHEAT, SOYBEANS AND FEED GRAINS SUBCOMMITTEE
U.S. HOUSE AGRICULTURE COMMITTEE

Oct. 12, 1989

Mr. Chairman and Subcommittee Members:

This is an interesting time to review our grain reserve policy. Interesting because our farm prices for wheat appear out of sync with our supply of wheat, and the disparity between supply and prices suggests some things about the use, or abuse, of our wheat reserve programs.

In the spring of 1988, which is the end of the 1988 marketing year, this nation had an 83-million-bushel carryover of durum wheat. That was nearly a full harvest of durum still in the bin from the previous summer's harvest. Farm prices for durum reflected the plentiful supply, and No. 1 hard amber durum was \$3.10 to \$3.70 before a drought set in on the Northern Plains.

After two years of drought in the principal durum growing region, USDA is projecting the carryover supply for next May at half of the supply two years earlier. Local prices, however, are actually lower than they were before the drought began. They are \$3.05 to \$3.50 in North Dakota.

Curious.

And, the record for other spring and winter wheat has followed a similar course. Total wheat stocks before the start of the 1988 drought were 1.25 billion bushels. USDA projects stocks for the end of this marketing year at 494 million bushels, which amounts to a fourth of a normal crop. Local prices for the best grade of wheat average near \$3.50, about the same as in early 1988.

So, wheat prices have remained soft despite a sharp drawdown of supplies, and it's natural to ask why.

There are several parts to the answer. Durum prices, for example, have been affected by increased imports of Canadian durum, and by a near absence of Export Enhancement Program sales.

It appears to me, however, that the USDA has intentionally used our reserve programs to soften the price of wheat.

The supply factors that shape the market price are found in the field, in the granary, and in pipeline, which is the grain immediately available to the grain trade.

USDA used the reserve grain to keep the pipeline full. So, even though the supply in the granaries is dwindling, the pipeline remains full, and millers and exporters don't have to look far for wheat.

Since last spring, the farmer-owned reserve has been depleted. With the exception of an 18-million-bushel emergency reserve, the Food Security Reserve wheat, once near 150 million bushels, has all been put up for sale.

Rather than try to market government-controlled stocks in a way that would assure farmers a price that covers an average cost of production, USDA rushed to plug the market pipeline so full of grain that prices could not rise.

It is true that our grain reserves are intended, in addition to insuring against food shortages, to provide price stability. It seems USDA has been more than eager to fulfill the later purpose. Without the USDA's vigilance in keeping prices from rising, market prices may well have risen above the target price this year. That target price would have paid farmers their cost of production, and it would have saved USDA a lot of money that will have to be paid in the form of deficiency payments.

As this committee considers a reserve policy for the 1990 farm bill, I hope the members will make it more difficult for the secretary of agriculture to use reserve grain against our farmers. To that end, I would suggest these provisions:

(1) A regular rotation of grain in reserve, with strict requirements for maintaining the quality of the grain originally placed in reserve. In upgrading the requirements for maintaining quality grain, I hope you will insure full participation by farmers who meet those standards, and not pass our tradition of farm storage over to large commercial warehouses.

(2) A very tight locking of reserve grain from the marketplace until supply shortages or release prices -- both prescribed by Congress -- mandate a release. A tight lock on the grain means farmers will be able to enjoy a reasonable price for their grain while the nation enjoys the security of a storehouse of grain when it is needed.

(3) Set the release price on grain at least at the target price, and, if possible, higher. If the target price represents a marginal return for farmers in an average year, a slightly higher price is necessary in a dry year if the average farmer is going to meet his production costs. That is because farmers will harvest fewer bushels, and the market ought to be able to reflect a shorter supply by way of a modestly higher price before reserve grain is poured into the marketplace.

Thank you for the opportunity to address this issue.

GRAIN RESERVES AND MARKET DEVELOPMENT*

John W. Mellor
International Food Policy Research Institute

Grain reserves have an important humanitarian role as a bulwark against famine. The United States, as the world's greatest grain exporter and wealthiest nation, has an important moral responsibility and physical capability in building and holding such reserves. Others testifying before this committee will provide factual evidence to support the need for such reserves and a sense for how large they must be.

There is a quite different commercially- and developmentally-oriented need for grain reserves that requires substantial stocks beyond those needed for emergency, famine-oriented needs. That need arises from the tremendous opportunities for accelerated market development for grain exports to developing countries, and the need for stocks to ensure that the United States, as the world's largest grain exporter, is seen as a reliable supplier, particularly in times of scarcity. That role of reliable supplier is costly and hence must be justified by large benefits.

The developing countries now represent the only growing cereals market. That growth is massive; offers opportunity to absorb the normal growth in U.S. cereals production over the next decade or two; and, depends on prosperity in the developing countries.

Note that fast growth developing countries always, excluding the city states like Singapore, have fast growth agricultures. Notice also that those developing countries with fast growing agriculture increase their cereals imports at a rapid rate. That is because agricultural growth is essential to rapid overall growth and the latter raises incomes of the mass of the poor people who then spend a high proportion of added income on food. Note also that the 1980s have been a decade of growth depressing distortions that greatly slowed imports of cereals in the 1980s. It is reasonable to expect that depressing period to soon end.

However, emphasizing agriculture and employment, and hence increased cereals imports entails large risks for poor countries with rudimentary political systems. These are countries in which food shortages are politically explosive. If global supplies are unreliable, such countries prudently restrain growth in employment and in the effective demand for food for fear of being caught short in times of national drought and consequent stress.

There are two policies that a reliable exporter should espouse. First, the effective, low cost role of the IMF cereal facility which lends in times of cereal import stress should be recognized and encouraged. That facility is now moribund due to too restrictive rules and developed countries' lack of support. Second, while a well-working IMF cereal facility decreases the need for stocks while it is financing imports, it is still important to use stocks to meet the same objective. However, it must be recognized that the optimal reserve for development purposes is expensive. A recognition of market imperfections brings the necessity of a public role in these processes of ensuring that one is a reliable supplier.

* Testimony to the Subcommittee on Wheat, Soybeans, and Feed Grains of the U.S. House of Representatives' Committee on Agriculture (October 12, 1989).

U.S. House of Representatives Committee on Agriculture
Subcommittee on Wheat, Soybeans, and Feed Grains

STATEMENT ON GRAIN RESERVES POLICY

On behalf of: Bread for the World
802 Rhode Island Ave, NE
Washington, DC 20018

By: Don Reeves, Policy Analyst and Nebraska Farmer
Amanda Wolf, Research Assistant

October 12, 1989

We appreciate this opportunity to share with members of the Wheat, Soybeans and Feed Grains Subcommittee our support for continuing the Farmer Owned (grain) Reserve and the Food Security Wheat Reserve, and several suggestions which we hope would improve the operation of each.

We appear on behalf of Bread for the World, a 40,000 member Christian citizens movement concerned with public policy decisions which affect hungry people worldwide.

Our comments bring together two perspectives which are critical for operating the best possible grain reserves. As representatives of Bread for the World, we bring a concern for assuring steady supplies of staple foods at reasonable prices, keeping in mind particularly those families in the United States and abroad who spend a high proportion of their incomes for food and are especially vulnerable to sudden increases in food prices.

I (Don) am also a grain and livestock farmer from Nebraska, and have a strong personal stake in stable, equitable prices for grains. I have been personally affected by wide swings in grain prices which disrupt the livestock industry, and the "low price" effect of mis-managed grain reserves.

RATIONALE FOR GRAIN RESERVES

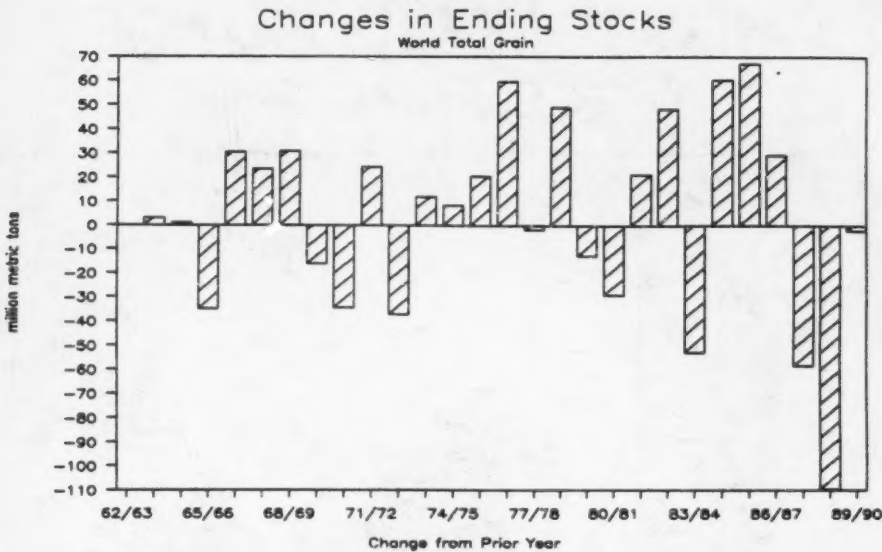
We offer three important reasons to support continuation of U.S. grain reserve programs:

- (1) to reduce price fluctuations due to inevitable fluctuations in grain production;
- (2) to assist in bringing about more orderly world trade in grains and grain products, hopefully in cooperation with other nations; and
- (3) to provide a back-stop to U.S. humanitarian food aid commitments.

The intent of our arguments is to support a program of reserves which achieve substantial gains in food security and rationalizing grain markets with minimal threat to the well-being of farmers in the United States and elsewhere. In instances when the effects of reserve programs are unknowable, we would consciously err in the direction of greater food security, focused on the needs of poor families. We believe that our concerns are widely shared.

Reducing Price Fluctuations

First, a market reserve, such as the Farmer Owned Reserve (FOR), can buffer year to year fluctuations in production. Such variability is inevitable, whether from natural causes, or from policy decisions in dozens of places around the world. Looking at the last 30 years, it appears that the variability is increasing, whether measured as a proportion of annual use or as volume of grains. To date, at least, the United States has absorbed more than its share of year to year variability.

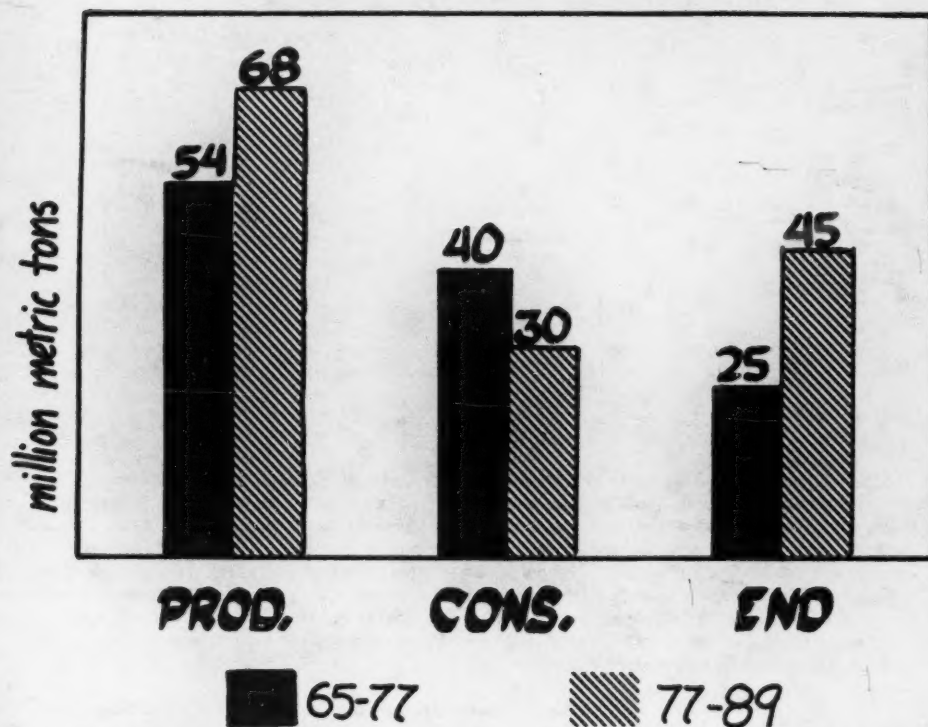


Fluctuations in production can be accommodated in only two ways: changes in use or changes in carryover stocks. In a market situation, price of grain will fluctuate to ration out the supply. If supplies are large, prices will drop, and vice versa. At least in unregulated circumstances, changed prices signal producers to produce more or less during the next growing season, or over several seasons. Awaiting this market response has two troubling aspects: (1) Changes in consumption of food grains (wheat, rice) in response to changed prices are relatively small (inelastic), so that a small change in supply may lead to a relatively large change in price; and (2) the supply response -- a larger or smaller crop -- is at least a full growing season away, and may itself be subject to unplanned variability. The poorest families everywhere are hard pressed to wait for next season's or longer-range corrections.

Changes in use of grain for livestock feed are more responsive to price changes (higher elasticity) than those for food grains. Some grains may be used for either food or feed, of course, so that "feed" grains act as a sort of "food" grain buffer in some circumstances, and may be seen as tempering the need for a food grain reserve. Such substitutions or diversions only exaggerate the impact on livestock producers, however, and in our view support the rationale for including feed grains in a reserve program, although at a proportionately lower level than food grains.

When comparing the periods from 1965-77 with 1977-89, there is a rather substantial shift in world-wide accommodations to variations in grain production. In the earlier period, changes in grain use accounted for a larger proportion of year-to-year changes in production than did changes in carryover stocks. Since 1977 a larger proportion of variability has been absorbed by changes in carryover stocks. We do not have the analytical capacity to claim for the FOR direct cause and effect, but would expect the shift to relate to the generally larger grain stocks carried over in most of the latter years. The generally larger carryover stocks and the shift in response coincide with the establishment of the Farmer Owned Reserve, beginning in 1976.

AVERAGE YEARLY CHANGE WORLD TOTAL GRAIN



Assist In Bringing About More Orderly World Trade

Second, a properly functioning grain reserve system assists grain producers, traders, and governments to make more rational decisions. By tempering the need for adjusting to year-to-year variation, it permits all parties to make decisions on the basis of multi-year trends, as opposed to shorter range responses to weather-related variations, or short-term political decisions. Grain reserves level out, and may actually reduce, the net costs of national programs to stabilize farmer incomes and assist poor consumers. By assuring a more stable grain supply, they enhance the role of the United States as a dependable exporter. Grain reserves reduce the risk to nations who might choose to rely on imports for part of their basic foodstuffs which could be produced more economically elsewhere, but who might feel it necessary to choose more defensive or self-sufficient policies in their absence.

We strongly encourage continuation of the FOR in such a manner that other nations will be encouraged to develop parallel grain reserve programs. The worldwide benefits from grain reserves might be more uniformly shared if the decision-making included most or all nations. The cost ought to be shared by other exporters, the industrialized nation importers, and probably in at least token degree by developing nation importers.

We would hope that such internationally coordinated grain reserves might become a subject of negotiation in the GATT negotiations.

Providing for Humanitarian Food Aid

Third, a reserve such as the Food Security Wheat Reserve (FSWR) acts as a backstop to U.S. food aid commitments, allowing the country to continue its humanitarian efforts or respond to emergency needs in times of very short supply or unusually high prices.

LEARNING FROM A DOZEN YEARS OF OPERATING A RESERVE

We think the experience of the past dozen years is quite convincing regarding the need for and benefits from having had grain reserves. Grain stocks, including reserves, have enabled the United States to come through three severe drought years during this decade without serious market disruptions in the United States or the world. Stocks accumulated during the period of declining sales allowed us to take advantage of improving terms of trade to supply a larger share of world grain exports.

Judgments regarding the most appropriate range of size for reserves are less clear. Large total grain stocks, partly held as reserves, almost certainly contributed to decisions by the European Community and the United States to increase export subsidies, to sharply lower market prices, and to a high price tag for maintaining U.S. farmer income.

The FOR should not bear the blame for all agriculture's problems during the 1980s. We note wide swings in fiscal and monetary policies, for example, as a more dominant factor. Before this committee, however, we are more concerned with misuse of the FOR, or having expected too much from it. In 1982 and during the mid-1980s, the FOR "inherited" problems generated by reduced exports and failures in the underlying commodity program rules. The positive effects of the FOR could probably have been achieved with smaller stocks but tightened rules for its operation, particularly at the margins -- as its size approaches the maximum, and regarding the release of the last portion of stocks.

We are distressed at the more recent drawdown of reserve stocks to levels we regard as risky, if not dangerous. We do not feel that grain stock or price levels warrant using up the last portion of farmer-owned reserves, and certainly not the Food Security Wheat Reserves. One of our research exercises has been to project the likely consequences of the 1988 drought had it occurred one year later, in 1989. Assuming that 1988 set aside policies had been continued into 1989, after a normal crop in 1988, shortfalls as large as those experienced in 1988 would not have been covered by remaining reserves, and would likely have resulted in sharply higher prices. Our projection is appended to our statement (Appendix A).

SIZE OF RESERVES

The appropriate maximum size for U.S. grain reserves is a three layered question. What is an appropriate size for carryover stocks for the world? What is the appropriate U.S. share of such carryover? What portion of the U.S. carryover should be designated as a reserve, and isolated from the market?

Our earlier graph (p.3) is based on average changes in production, use, and carryover. In the following chart, we show both average year-to-year changes, plus the range of variability.

WORLD TOTAL GRAINS (million metric tons)
AVERAGE AND LARGEST EXPECTED VARIABILITY OF PRODUCTION,
CONSUMPTION, AND ENDING STOCKS

Period	<u>PRODUCTION</u>		<u>CONSUMPTION</u>		<u>END STOCKS</u>	
	Average Yr-to-yr Change	Largest Expected Change **	Ave.	Var.	Ave.	Var.
1965-77	54 mmt	131 mmt	40 mmt	75 mmt	25 mmt	56 mmt
1977-89	68	164	30	76	45	102

** Largest Expected Change, or Variability (Var.), as used here, is the average plus two standard deviations, based on actual data from each period. It represents the largest change, up or down, that would be expected in 19 out of 20 years. So, for example, looking at the second line above, between 1977 and 1989, yearly production was on average 68 mmt more or less than the year before. The variability figure, 164 mmt, indicates that there is a 95 percent likelihood that the change in production, up or down, from one year to the next would not exceed 164 mmt. The expected variability would be slightly larger, if the calculation incorporated the trend, rather than the average, within the twelve year period.

The above numbers suggest that world-wide reserves on the order of 100 mmt would cover the greatest expected variation for almost any single year, or most of the variation for one year, with a little cushion for a second year. To this reserve might be added a smaller reserve specifically set aside to meet food aid needs, of the same character as our present Food Security Reserve. Global food aid has totaled about 10 mmt in recent years. A total reserve equal to one year's need would not seem excessive.

One measure for setting the U.S. share of global reserves would be its share of global grain trade -- about 50% -- or 50 mmt (about 2 billion bushels). Another relevant measure is the maximum change in ending U.S. stocks in recent years. U.S. wheat stocks dropped by 15 mmt (555 mill bu) from 1987-88, and another 18.1 mmt (665 mill bu) the following year. Feed grain stocks dropped by 69 mmt (2.7 billion bu) from 1982 until 1983, gained a like amount in 1985-86, then dropped again by 72 mmt (2.9 bill bu) from 1988 to 89. Current stock levels of neither wheat nor feed grains would permit an adjustment of these magnitudes.

Bread for the World feels that the FOR stock levels established by the 1985 Food Security Act were probably about right -- 30% of annual use as a maximum (715 mill bu - 10 yr ave), and 17% (400 m. bu.) as a minimum for wheat, and a 15% - 7% range for feed grains. Recognizing the problem of determining these levels on a one-year basis, we would encourage using a several year moving average as the base. We slightly prefer a self-adjusting factor to a fixed bushel target, and as indicated earlier, would prefer to err on the cautious side, particularly for wheat.

Fortunately, there have not been frequent occasions since 1981 to call on the Food Security Wheat Reserve. Its single use, prior to this year, was to expedite drought relief for Africa in 1984, after which it was "replaced," or more accurately, "redesignated" from CCC stocks. We seriously question the current drawdown of FSWR stocks at the same time we are continuing to subsidize exports, and with FOR stocks at minimal levels. We are inclined to think of the current 4 mmt (150 m bu) FSWR as minimal; and would feel

more comfortable with a full year's food aid on hand (about 6 mmt - 220 m bu).

OPERATING MECHANISMS

Indicators

Market price and size of reserve stocks are the indicators currently used to trigger decisions to accumulate reserves. With the introduction of generic certificates, most FOR stocks have been released, and not replaced, at price levels well below the contracted price triggers, and for purposes more attuned to trade negotiating strategies and cutting federal costs than with maintaining a reserve. It is our judgment that "flexibility" in the management of reserves has been overdone.

We believe that ending grain stocks should be incorporated as a factor in determining the appropriate times to add to or draw down FOR stocks. Price is correlated with stock levels, of course, but is subject to so many non-market factors that it is probably not a sufficient indicator. Why not look directly at stock levels?

Integrating Stock Management Decisions

An additional reason for using stock levels as a direct indicator in making reserve stock level decisions is that overall stock levels are used in stocks management decisions -- set aside levels, export enhancement programs, uses of commodity certificates. We feel that FOR stock level goals should be integrated with the full range of these decisions. For example, if FOR stock levels are below the mid-point of the range between minimum and maximum, then rebuilding those stocks should be a production goal, and should be factored into set-aside decisions. If, because of good fortune, reserve stock levels are at the top of the range, then planning might be somewhat less conservative.

The attached schematic (p.8) may be helpful in thinking about the coordination of grain stock levels, market price levels and reserve stock levels in planning for reserve stock management. For example, if U.S. ending stocks of wheat are projected to be relatively high, (at the 1 billion bushel trigger for mandatory set-asides, for example), and market prices relatively low (at or below loan price), and FOR stocks are below mid-range, then the Administration would be required to plan for rebuilding the stocks to mid-range.

We would further suggest that decisions regarding entry/drawdown of reserves be reviewed at least semi-annually. Drought, natural disaster, political decisions by a customer or competitor nation, unusually favorable growing conditions, or other unforeseeable factors may suggest changes more often than annually.

We think that to maintain credibility in the reserve, and to keep any substantial reserve stocks from depressing markets, it will be necessary for at least part of the FOR stocks to be under multi-year contract, with rather stringent conditions mandated for their early release. Certainly, any release of FOR grain below the minimum stock level should be only under conditions of low overall stocks and high prices.

International Coordination

Operation of the FOR along the lines that we have indicated should result in some incentive for international cooperation in establishing and maintaining grain reserves. Allowing very large accumulation of grain stocks, whether or not designated as reserves, and forcing grain out of the reserve below announced release triggers has certainly functioned as a disincentive for other nations to invest in parallel systems. With reserve bins essentially empty, now may be a good time to initiate more cooperative approaches to reserves. Successful coordination of national reserves might even lead to cooperation on other stock management goals.

Food Security Wheat Reserve

Our management approach to the Food Security Wheat Reserve (FSWR) would be very conservative -- a first in, last out basis. For example, we would suggest any use only when FOR stocks are in the low range. So long as there are FOR stocks above minimum levels, we would urge immediate replacement of any FSWR stocks used. Only if FOR stocks are essentially exhausted would we suggest use without direct replacement. Replacement of FSWR would precede any rebuilding of FOR stocks.

We have considered suggestions that the FSWR be integrated with the FOR, but remain skeptical. The FOR will, we assume, continue to be operated on an incentive basis, whereas we think of the FSWR in terms of a small stock that is available by Administrative decision, within rather tight guidelines.

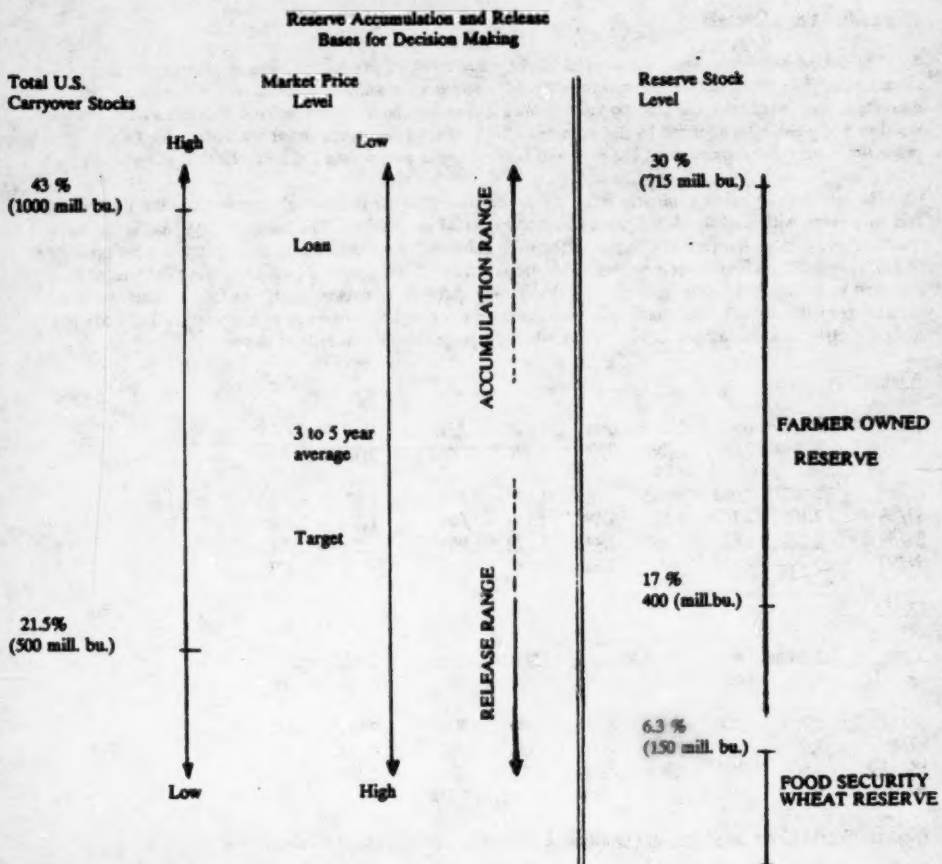
SUMMARY

We urge continuation of both the Farmer Owned Reserve and the Food Security Wheat Reserve, and offer several suggestions which we feel would strengthen their operation.

- (1) In planning for an extension of the FOR be mindful of conditions which would elicit development of parallel, coordinated reserves by other exporters and major importers;
- (2) Tighten the operating rules for the FOR in ways which emphasize its food security aspects and minimize its negative impact on grain prices and farmer well-being;
 - (a) Use a combination of carryover stock levels, market prices, and reserve stock levels as indicators to determine FOR accumulation and release;
 - (b) Integrate reserve goals into stock and production management policy decisions;
 - (c) Assess the need for accumulation or release of FOR stocks at least semi-annually;
 - (d) Base reserve stocking decisions on a percent of use index rather than a volume measure;
 - (e) Keep at least a major portion of FOR stocks under multi-year contracts;
- (3) Maintain the Food Security Wheat Reserve, under CCC management, with rules which ensure its conservative management.

Concluding Remarks

Grain reserves can contribute to world food security, can enhance the performance of world grain markets, and could be the basis of fruitful international cooperation, provided that these goals are kept paramount in its structure and operation. Properly constructed and administered, grain reserves need not be unduly expensive nor threaten the well-being of farmers in the United States or abroad. Misuse of grain reserves for a multitude of other purposes, particularly as a reservoir of grain for strategic or bargaining purposes, undercuts its usefulness for its primary objectives.

**NOTES:**

Percentages of use and bushel equivalents are based on average use during the past ten years.

Ranges for the Farmer Owned Reserve (FOR) are those established in the Food Security Act of 1985 (which were effectively reduced in the Omnibus Budget Reconciliation Act of 1987).

AppendixPolicy Effects and Drought

The USDA publishes monthly estimates of projected levels of production, consumption, trade and ending stock levels. The projections are based on a "trend" analysis as modified by actual developments as the marketing year progresses. So, for example, before a crop is planted, the projection is derived from normal weather and yield data, adjusted by the expected effects of set-asides announced for that crop. The projections are refined throughout the year and beyond as the actual data are assembled.

The information below compares side by side the June 1988, or pre-drought, projections for 1988 wheat and corn crops with the July 1989 figures which show actual production. The 1988/89 crop year is the focus. "Normal" projections for 1988 are shown in the 6/88 columns. Note that wheat ending stocks were projected to fall from 1,231 million bushels to 796. This drop, estimated before the drought hit, was the change expected by policy decisions (e.g. large set-asides). The differences between columns in the same row show the effects of the drought and changes in use. So the ending stocks for wheat, as recorded in 7/89, are 694 million metric tons, as compared with the pre-drought projection of 796 million bushels.

WHEAT

Year	Production		Net Exports		Domestic Use		End Stocks	
	6/88	7/89	6/88	7/89	6/88	7/89	6/88	7/89
86/87	2,092	2,092	983	983	1,193	1,193	1,821	1,821
87/88	2,105	2,107	1,585	1,592	1,110	1,092	<u>1,231</u>	<u>1,261</u>
88/89	<u>2,170</u>	<u>1,811</u>	<u>1,485</u>	<u>1,440</u>	<u>1,120</u>	<u>963</u>	<u>796</u>	<u>694</u>
89/90		2,117		1,225		1,015		592

CORN

Year	Production		Net Exports		Domestic Use		End Stocks	
	6/88	7/89	6/88	7/89	6/88	7/89	6/88	7/89
86/87	8,250	8,250	1,502	1,502	5,906	5,906	4,882	4,882
87/88	7,064	7,072	1,698	1,732	6,136	5,967	<u>4,112</u>	<u>4,252</u>
88/89	<u>7,300</u>	<u>4,921</u>	<u>1,748</u>	<u>2,100</u>	<u>6,275</u>	<u>5,255</u>	<u>3,382</u>	<u>1,830</u>
89/90		7,450		1,950		5,500		1,833

(Source: World Grain Situation and Outlook, USDA/FAS, June, 1988 and July, 1989.)

The next table translates the ending stocks data above into percent of use (domestic use plus exports.) This provides a very quick picture of the effects of policy (changes year to year within the same column) and drought (changes from the earlier to the later estimates, within the same row.)

ENDING STOCKS AS A PERCENT OF USE

WHEAT

Year	6/88 est.	7/89 est.
86/87	83.7	83.7
87/88	<u>45.7</u>	<u>47.3</u>
88/89	<u>30.5</u>	<u>28.8</u>
89/90		27.4

CORN

Year	6/88 est.	7/89 est.
86/87	65.9	65.9
87/88	<u>32.5</u>	<u>33.3</u>
88/89	<u>42.2</u>	<u>24.9</u>
89/90		24.6

For example, in the Wheat chart, from the 6/88 column we see that ending stocks were projected to fall from 45.7 percent to 30.5 percent of use given normal conditions. This is the policy effect. From the 88/89 row we see that ending stocks actually fell from the projected 30.5 percent to 28.8 percent. This is the unanticipated, or drought, effect. The unanticipated (drought) effect is much more striking in the case of corn, in which the actual level fell from a projected 42.2 percent of use to 24.9 percent.

Testimony by

Rodney E. Leonard

Executive Director
The Community Nutrition Institute

Testimony prepared for delivery by Rodney E. Leonard, Executive Director, Community Nutrition Institute, before the House Subcommittee on Wheat, Soybeans and Feed Grains, Thursday, October 12, 1989.

Thank you for the opportunity to present these views on the elements of a U.S. grain reserve policy. I am a consumer advocate -- i.e., my testimony encompasses a consumer perspective, but I do not pretend to speak for all consumers. A grain reserve policy needs to be framed in reference to consumer needs. We are beginning to see the consequences to food policies when consumer confidence ebbs away in the mounting disarray that is evident in the food marketplace when consumers lose faith in food safety policies.

I believe I can provide an informed perspective. I served in the Department of Agriculture during the Kennedy-Johnson Presidencies in various policy management positions, ranging from Press Secretary to the Secretary, to Administrator of Consumer and Marketing Service, an agency that since has been divided among three Assistant Secretaries. I also served in the White House as Deputy Director of the Office of Consumer Affairs during the Carter Presidency.

My interest in food policy is long standing, and spans the development of food and farm programs for nearly 30 years. I have sought to encourage responsible grain and food reserve policies. Ten years ago, for example, I met with Rep. Tom Foley to discuss the idea of creating a world food reserve using the vast stockpile of U.S. wheat then in storage. I can remember his reaction now as though it were yesterday: "Don't talk to me about food reserves when we have all this surplus wheat," he snorted. It was a brief conversation. However, those surpluses are gone now, and its time to talk about food reserves.

Three years ago the U.S. had almost 2 billion bushels of wheat in stockpile. That has all but disappeared. Next June we will have less than 500 million bushels of wheat in storage when harvest begins, the lowest on a per capita basis since the end of World War II.

The supply situation is a precarious one, and we have arrived there for a number of reasons, each instructive for policy considerations:

1. The U.S. has never experienced a drawdown of this magnitude-- i.e., a withdrawal of 1.5 billion bushels of wheat in the period of three years. It becomes even more breathtaking when you include a drawdown in corn stocks of nearly 2 billion bushels in the same period;

2. The world, and the U.S. has used more grain than it has grown for three years running. The reasons for this are both political — i.e., the U.S. decision to reduce wheat production, and climatic — the worst drought in the U.S. grain belt since the 1930s.

The message, regardless of the cause, is obvious. Grain and food prices in the U.S. and the world have been relatively stable over the past three years only because the U.S. had unintentionally built an enormous stockpile of wheat, corn and feed grains.

We have been lucky, but we have exhausted that supply of good fortune. The world no longer can be buffered from a relative crop failure in any major wheat producing region, and consumers need a well thought out grain reserve policy as insurance against a future disaster.

The world is more vulnerable to such an event in the 1990s, not because of the uncertainty of the potential effect of global warming but instead from new demand conditions that will affect the global wheat market.

U.S. grain reserve policy always has been driven by two considerations. One is to insulate wheat growers from the consequences of producing nearly twice as much wheat as can be consumed domestically, and the other is to provide U.S. wheat at little or no cost to the developing world to help prevent hunger and starvation. The farmer-owned grain reserve is the policy to protect the income of wheat farmers, and the P.L. 480 programs plus the emergency food reserve expresses the humanitarian side of the policy.

Two new conditions appeared in the 1980s that will affect the nature of grain reserve policy in the 1990s.

1. One is the turmoil now evident in the political transition of the communist bloc from a government based on ideology to something more democratic and pragmatic;

2. The second is the political reality that in the export enhancement program (EEC) the major commodity groups have obtained a defacto agreement with Congress and the Executive branch to subsidize exports of farm products, with very little oversight given to its cost to the treasury or its impact on domestic markets. For wheat farmers this appears to be a commitment to export 1.5 billion bushels of wheat each year.

Given these demand characteristics, a reserve policy should be structured to avoid this one situation: i.e., to prevent sustained, double digit food inflation. As a consumer I know the U.S. will take whatever steps are necessary to prevent the

Consumer Price Index (CPI) for food from riding at double digit levels for any long period. This means the Federal government will either impose an export moratorium on grain and feed products, or it will buy whatever is needed on world markets to adequately feed the American people. The political fallout from embargoing exports or from shifting hunger and starvation to the world's poor, however, is unacceptable.

Thus, a grain reserve must be adequate to serve several different conditions in the 1990s, including:

1. The annual export of 1.5 billion bushels of wheat. On first glance there is little to commend this policy, but on further study, it has some virtues. Wheat is central to the economy of large regions in the U.S. where climate and geography preclude other activities to sustain the population. Wheat is the lifeline for the midwestern heartland. The U.S. could produce 2.8 or 2.9 billion bushels of wheat each year, but we consume only a billion. This leaves a potential 1.8 or 1.9 billion bushels that either must be stored or sold on world markets.

Given the vagaries of weather, however, we likely will produce something in the range of 2.2 to 2.7 billion bushels. This year we expected to produce about 2.4 billion bushels, but ended up harvesting somewhat less than 2 billion. The drought cut output by 400 million bushels, which we had to take from carryover stocks instead.

We cannot manage a drawdown of the magnitude in 1990-91 because we no longer have the wheat stocks on hand. A reserve policy must prevent stocks from dropping to so precarious a status in the future, which suggests a cushion of 400 to 500 million to sustain the new export policy.

2. A second goal of a U.S. grain reserve policy is to support a broader national objective of encouraging the transition of the communist world toward a more democratic political system where pluralism is acceptable. A potential barrier is the inability of the Soviet Union and some communist bloc countries, including Poland, to feed themselves. Food production is lagging. Assistance from the U.S., and the European Community, will be essential. We already are taking some steps in this direction. Some \$100 million in food aid is being provided to Poland, and subsidized sales of grain and other commodities are being made to the Soviet Union. We sold the Soviets nearly all our surplus butter last month at prices far below world levels.

We probably will need a cushion of 100 to 200 million bushels of wheat in a grain reserve for contingencies in the Soviet bloc.

3. The developing world, particularly countries in Africa and Asia, will continue to need the assurance of food aid well into

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the 21st century, and U.S. grain reserve policy must allow for these contingencies. We have had an emergency grain reserve of 4 million tons of wheat, or about 170 million bushels, but now that is gone, or will be gone by next spring. Secretary of Agriculture Clayton Yeutter, who is guardian of this reserve, released it last month, but under circumstances that hardly qualify as an emergency for which the reserve was designed. The stocks were provided to supply the regular PL480 program needs which normally are purchased on the open market. Purchases would simply add more dollars to chase too little wheat, pushing up prices for everyone. Thus, the emergency was domestic prices.

The emergency food reserve, or what is called the food security reserve, should be replenished as soon as possible, and expanded by another 2 million tons. We already can expect a renewed call on U.S. food assistance for Ethiopia and Sudan early next year. A severe drought has returned to the region, striking at Eritria and Tigre where grain output will be 10 to 20 percent of normal.

4. The fourth component of a reserve policy is domestic needs. The U.S. consumes about a billion bushels of wheat each year in food uses, another 100 to 200 million bushels as animal feed when stocks are high.. A U.S. grain reserve should included 400 million bushels as a minimum safeguard for domestic stability.

Given these four elements, a grain reserve in the 1990s should range between 1.2 to 1.4 billion bushels of wheat, or some 40 percent greater than was considered adequate in the 1980s. But the size of the reserve is only one aspect of grain reserve policy. Management is another, and perhaps the most important.

Grain reserves become an indispensable part of a supply management strategy in the 1990s. If we continue, as we have done for the past 5 years, to export 1.5 billion bushels of wheat a year, the EEP program becomes part of a new supply management program, and should be coordinated with the reserve programs. The U.S. cannot maintain a yearly flow of 1.5 billion bushels of wheat without EEP, nor can it manage EEP without recognizing its impact on grain reserves.

When wheat stocks exceed 1.4 billion bushels, EEP should be available for unrestricted use to encourage exports. When reserves fall between 1.0 and 1.4 billion, EEP should be restricted to matters of specific national interest — i.e., to assist the Communist bloc, for example. EEP should be suspended when stocks fall below 800 million bushels.

To recap, American self interest will require the federal government to take whatever action is needed to assure access of U.S. consumers to adequate food. This includes unilateral embargoes and/or the bidding on world markets for available food. Both options are politically destabilizing and carry

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unacceptable economic costs. The purpose of a grain reserve is to avoid this situation.

Over the next decade, four different socio-economic situations can be foreseen that will be affected by food supply conditions, and must be considered in formulating a food reserve policy.

They are:

1. The transition of the communist bloc;
2. World hunger;
3. Grain exports;
4. The domestic food situation.

A U.S. grain reserve should contain 1.2 to 1.4 billion bushels of wheat to insure stability in all these situations, and the export enhancement program should be managed in relation to the grain reserve program.

Thank you for the opportunity to testify, and I will be pleased to answer any questions you may have.

(Attachment follows:)

Nutrition Community Nutrition Institute Week

Cholesterol Campaign Hits Unexpected Snag; Criticism Delays Report

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Genome Mapping...
Infant Health...

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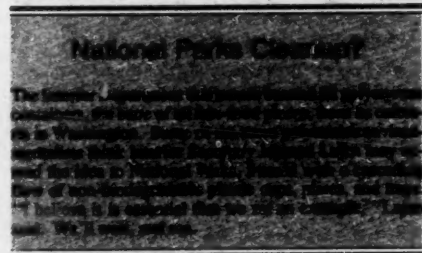
The unveiling of the centerpiece of the National Cholesterol Education Program (NCEP), scheduled this week by the National Heart, Lung and Blood Institute (NHLBI), will be delayed until February.

Dr. Claude Lenfant, NHLBI Director, told the NCEP Coordinating Committee that the decision to delay formal recommendations that would have every American adopt a low-fat diet "has nothing to do with the Atlantic Monthly article." Atlantic Monthly magazine for September published a lengthy article that debunks the cholesterol campaign as based more on myth than scientific data. C. Everett Koop, who retired last week as Surgeon General, predicted earlier that "the bubble will burst" on the cholesterol campaign because of inadequate scientific justification, (CNI: Vol. 19, No. 37).

"We had already decided to delay this report for review in February before the Atlantic Monthly article was published," Lenfant said.

"The delay, however, is an appropriate response to the Atlantic Monthly article," Dr. Lawrence Watkins, Association of Black Cardiologists, responded quietly but firmly. The report provides a population-based response to a major health problem at a time when there is growing confusion within the high risk cholesterol group and the general population over how to deal with cholesterol, Watkins said. He is a member of the NCEP Coordinating Committee.

"We are trying to engineer a major cultural change," Watkins said, suggesting that NHLBI is attempting to alter the health behavior of the American people without thoroughly evaluating the goals and the problems that will be encountered.



"There is a weak flank, and we have not paid adequate attention to it," Watkins said. The weak flank is the problems involved with social engineering and the cost effectiveness of the treatments NHLBI is recommending. "We have pushed these issues aside, and they need to be examined," Watkins said. "We can be justly attacked on them."

The Advisory Panel should focus NCEP more on the "societal rather than individual benefits," Watkins said.

Lenfant concluded the exchange by acknowledging "the Atlantic Monthly report provides us with the opportunity to be self-critical."

The NHLBI was ready to propose that every American adopt a low-fat diet in which fat would provide no more than 30 percent of total calories, and saturated fat no more than ten percent of total fat calories. The draft document was battered by strong criticism from other Public Health Service (PHS) agencies within the Department of Health and Human Services (HHS). The Food and Drug Administration (FDA) is reported to have raised serious questions on why the proposal failed to incorporate more recent cholesterol research.

The most damaging criticism came, however, from several commodity groups representing food producers, including dairy and livestock producers. They pointed out that current studies on cholesterol in humans conclude that genetic conditions account for over half of all high risk individuals.

Thus, if genetic conditions are a primary factor in the problem of high cholesterol and heart disease in the American population, the NCEP approach will not succeed in reducing the threat of coronary heart disease (CHD). NCEP is a population-based intervention strategy which assumes the cholesterol problem is shared equally throughout the American population. However, when the risk is isolated within a much smaller segment of the population distinguished by genetic differences, a population-based strategy is ineffective and, as the Atlantic Monthly article contends, comes at high cost for little benefit.

Worse, if individuals whose blood cholesterol levels are at or below the societal norm set by NHLBI are pressured into behavior that reduces those levels further, NCEP may be exposing them to diseases — such as cancer — that are increasingly linked to low cholesterol levels.

In addition, by proposing to change the fatty acid composition as well as the level of fat in the diet, NCEP would substantially increase the potential risk to health of the population. A team of clinical pharmacologists at Cambridge University in England has concluded that people who eat large amounts of polyunsaturated fat as a dietary strategy to reduce CHD risk may actually be putting themselves at increased risk.

Prof. Morris Brown, who heads the team, told the London Times last month that "The idea that (polyunsaturates) could be hazardous should not be regarded as proven, but

there is an increasing amount of clinical evidence and basic molecular evidence to support it."

Much of the newly emerging data and the mushrooming criticism was implicit in Lenfant's explanation of why NHLBI decided to pull back. He denied that NHLBI is going to change the recommendations on fat — "We are leaving the recommendations in place." The comments, he said, did not quarrel with the substance. Instead, the reviewers suggested that more careful documentation be provided to support each specific recommendation.

Even that is a major step for NHLBI. Until now, the agency did not believe it needed to document specific claims, or explain why the changes it sought to impose on the American people were justified.

Cholesterol Pullback Surprises Advocates

Project Lean, a privately funded cholesterol education program, had come to Washington this week assuming that the expected endorsement by the National Heart, Lung and Blood Institute (NHLBI) of a low-fat diet for Americans would be the centerpiece in a media blitz for which they would provide the dessert.

Instead, the program to begin implementing the NHLBI recommendations on low-fat diets — sponsored by the Henry J. Kaiser Family Foundation — found itself all alone explaining to the press why it was announcing a 10-state model program when NHLBI was intimating elsewhere that it may be having second thoughts.

Why this project? Why is it announced now? "This is a propitious time. There is a general movement nationwide to change nutrition habits," Alvin Tarlov, Foundation President said. "Although we don't exactly know the effect of diet on disease, we know there is such a relationship," he explained. "There is conclusive evidence for a relationship."

Dr. J. Michael McGinnis, Deputy Assistant Secretary for Health in the Department of Health and Human Services said "the precise degree of diet's contribution to overall risk for these conditions is not certain, and may vary among individuals". He nonetheless inferred that one million Americans die each year of heart attacks and cancer because of fat consumption.

The 10-state model interventions will operate with a \$700,000 overall grant for up to a two-year period, and were selected from among 35 proposals originally submitted to the Foundation. Four of the projects are in the west, three in the south, two in the northeast and one in the midwest. Six are located in urban areas, two are designed for rural audiences and two have a rural-urban mix.

In most cases, the projects will be managed by state health

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agencies, either to expand an existing program to encourage low-fat diet or to create a new project aimed at specific community groups. A New York City project will focus on reducing fat consumption among black and Hispanic residents, while a Nebraska project will develop programs in supermarkets, schools and worksites. Schools also will be the target in Utah, while the Nevada Extension Service will work in casinos to bring a low-fat diet message to customers and casino workers.

Search Quickens for Drug To Block Human Appetite

Scientists in drug company laboratories have found the chemical pathway to make test animals hungry, and now are following the pathway to new chemicals to suppress human appetites.

The discovery, reported in the current issue of *Science*, of two experimental drugs that block in the brain signals of satiation, or having had enough to eat, is a vital step towards the development of other drugs that block the feeling of hunger.

The drugs, developed by Merck Sharpe and Dohme, work by blocking the action of cholecystokinin (CCK), a hormone that signals the brain when no more food is needed biologically. An individual taking these drugs would feel hungry even after eating, a reaction that would have immediate medical value in treating persons with severe weight loss - cancer patients, anorexia nervosa and other disorders that leave patients with little or no appetite.

The discoveries lead the researchers to believe they could produce next a chemical mimic of CCK that could be given to obese individuals who are unable to control their appetite. CCK is a protein that is produced in the brain on signals received from chemical messengers which researchers surmise are produced in the human gut. Since it is a protein, CCK would be digested in the stomach if taken by a patient.

While a safe and effective appetite suppressant would have significant medical benefit in treating obesity, the drug would find widespread and highly profitable use among persons who simply want to lose weight. Appetite suppressors are currently available, but either have side effects or become ineffective as individual users develop a tolerance for them.

Genome Mapping Project Making Faster Progress

The U.S. project to map the human genome, once expected to cost more than \$5 billion and take up to 20 years, may have found a way to reduce costs to less than \$3 billion and get done in half the time.

The genome map, which is expected to revolutionize much

of human biology, will fundamentally alter the role of nutrition in diet and health by enabling nutrition professionals to recommend dietary practices according to individual needs based on genetic characteristics.

Even with the limited progress to date, researchers have found that genetic patterns have a dominant role in heart disease, cancer, diabetes and other chronic illnesses where diet can play an effective role in improving individual health and performance. Overall, scientists estimate that some 4,000 genetic diseases and chronic illnesses with genetic components are involved.

The human genome consists of between 100,000 and 150,000 genes distributed along the 46 human chromosomes in each human cell, and the organizational task of locating each gene has been a nightmarish managerial challenge. Once done, the project will determine the location of each gene, decode its biochemical, or DNA message and define its function.

This year Congress will appropriate \$90 million to begin the project in earnest, and scientists met this week to develop a master plan to manage the process. The key to the plan appears to have emerged from the work of Maynard Olson, an economist at Washington University in St. Louis, and three other academicians.

Molecular biologists have always planned to divide the decoding work among hundreds of research laboratories in colleges and universities, but the technique to organize, distribute, record and store the tens of thousands of samples -- or snippets of DNA -- from each chromosome had escaped them. One proposal would have required a central storage and handling facility that would have taken half of the budget simply to operate.

Olson and his fellow analysts had a better, much simpler idea. They developed a method to uniformly mark each chromosome with sequence-tagged sites (STS) that would be used by all groups searching for different genes. Using the STS signposts, a team could look up the current information on a specific STS signpost, and work on the unexplored areas.

The key to the STS strategy is the method devised by Olson to distribute the STS markers throughout the human genome, even within the chromosome segments where little or no mapping has been done. The Olson technique would distribute tens of thousands of markers -- some 3,000 already have been located -- that would become a roadmap for genetic researchers.

The beauty of the STS method is that no physical exchange of DNA material is necessary. Each research team is capable now of synthesizing human DNA samples, and each team could synthesize the DNA snippets they would study.

The results from thousands of such research efforts could be fed back into the genome project central computer where the information would be organized into a human genome map.

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Food and Population Held in Fragile Balance

Food and population are in "fragile balance" with respect to five factors -- land, water, weather, food and people -- where instability in any one could lead to starvation and world turmoil.

This is the essence of "The Global Food and Population Equation: A Fragile Balance" (Aug. 1989), a recently issued report of the House Subcommittee on Natural Resources, Agriculture Research and Environment.

Experts on agricultural technology and economic growth reviewed relationships of population growth, food production, environmental degradation, economic development and natural resource management. They said the basic problem is the diminishing availability of land and water resources -- the factors needed to grow food -- as population increases.

The observation is nothing new -- i.e., Malthus said it more elegantly in the 18th century: food increases arithmetically while population increases geometrically -- but the recommendations of the panel broke new ground. Among them is a proposal to trade foreign debt incurred in the developing world for agreements with the industrialized nations holding the debt to adopt policies to conserve and develop water, soil and timber resources.

The 20th century response to Malthus is that he did not know about science and technology, and what these two genies of productivity can do to agriculture. Several witnesses addressed this matter, raising questions as to whether the apostles of science and technology anticipated the environmental, cultural and other consequences of technology without adequately considering the consequences for the 21st century.

Dr. Wangari Maathai, founder of the Greenbelt Movement in Nairobi, Kenya, believes "that high technology solutions offered in assistance programs in Africa cost too much -- both in terms of money and in terms of environmental degradation."

Dr. Maathai said, "To increase their crop yields, farmers need to improve the fertility, or regenerative capacity of their soil with simple and inexpensive methods available to them (such as animal manures, agroforestry, composting, etc.)."

"The practice of planting, for example, nitrogen-fixing trees with crops enhances soil fertility, retains soil moisture, and reduces erosion; hence, crop yields increase. Chemical fertilizers, pesticides, new seed varieties, and huge irrigation schemes are some of the solutions being offered to African farmers. These solutions will not work because fertilizers and pesticides cost too much in foreign currency to be sustained...They do not promote the regenerative capacity of the soil, that is, sustainable farming. So they don't offer any long-term solution."

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Dr. Charles Benbrook, Executive Director, Board on Agriculture of the National Research Council, concurred: "Attempts to increase production in developing countries through importation of chemical and capital-intensive technologies from the developed world are likely to fail on economic and technological grounds."

"Moreover, these technologies can add dangerous new dimensions to natural resource degradation, and set the stage for a new generation of environmental problems, including water pollution, wildlife poisonings, and human death and disease."

What is the extent of population growth? Subcommittee Chairman James H. Scheuer (D-NY) noted there were a billion people in the world in 1830, 2 billion in 1930, 3 billion by 1960, 4 billion 17 years later, and 5 billion in 12 more years. Global population may reach 6 billion by the end of the century.

Dr. Robert Chandler, winner of the 1988 World Food Prize and a pioneer in the "green revolution" that helped increase food production in Asia in the 1960s and 1970s, stated, "To me, the high population growth rate is the most serious threat to the well-being of mankind. With a finite world and an infinite population (growth), they just don't go together. We're going to commit suicide one way or another unless we can control our population in the long run."

Maurice Strong, first Secretary General of the United Nations Environment Programme, concurred: "The problem...is population growth in the developing world, so that even those countries which did experience growth in their own food production had that growth largely and in some cases fully offset by population growth. So you cannot view the food issue in any other way than in its relationship to population growth and to the growing nutritional and food needs in existing populations."

Population growth rates in developed nations have decreased, the report notes, sometimes to near replacement levels. Improved medicine, increased prosperity, lower infant mortality rates, and improvement in the social and economic condition of women are factors in this change, the report states.

The role of women in the developing nations was emphasized by several witnesses, both as mothers and as agricultural workers.

Dr. Fred Sai, Senior Population Adviser for the World Bank, is quoted: "Women -- woman -- that is the major link in this, because in much of Africa the people who produce food crops are women."

"And the health of women, the education of women, the way that women are taught to handle technology will be the major engine that will drive any issue that seeks to bring together population, the environment, and food -- at least in Africa, and to a large extent in Asia."

Dr. Waafus Oforu-Amaah, Founding Member of World-

WIDE, said that women in Africa provide 60 to 90 percent of subsistence labor for agriculture and an increasing proportion of cash crop labor, but their concerns have been neglected by policy makers.

Underlying problems related to womens' roles in determining both agricultural policy and family planning programs are caused by the lack of status of women in their own localities, several witnesses said.

"The problem (of fertility control) lies with men, said David J. Kwidini, Minister of Youth, Sports and Culture in Zimbabwe, "and this is being recognized more and more in many African countries. And because of that recognition, family planning services are no longer only for women. They are also for men to educate them to the needs."

Time is running out for population growth programs, several witnesses emphasized. Said Patricia Baldi, Population Programs Director for the National Audubon Society: "We have less than a decade to make substantial differences on these problems, and I get very upset when I sit at meetings with scientists and policy planners and they talk about 20 or 30 years...It is in our hands right now..."

Sources of needed food were considered by several witnesses, such as biotechnology, mariculture (farming in oceans and fresh water environments, and cultivation of marginal lands). All show promise for increasing food supply, but all have drawbacks as well.

Dr. Hillel Gordin, Director of the National Center for Mariculture in Eilat, Israel, described mariculture work in Israel, involving fish and water-based organisms. He believes mariculture should take place in oceans because of scarcity of and competing demands for freshwater sources. Mariculture requires a high level of technical expertise for success, he noted.

Biotechnology offers methods of conferring disease-resistance traits on agricultural plants in much the same way as conventional plant breeding has done, but using quicker modern-biotechnology techniques.

Dr. Luther Val Giddings, Biotechnology Consultant to the World Bank, listed political, economic, and scientific constraints to biotechnology, and voiced uncertainty about what levels of quantitative improvements could be expected. He did reflect optimism about environmental effects, stating that biotechnological solutions would be "environmentally more benign than some of the methods we have used in the past," citing plans requiring large inputs of chemical fertilizers, herbicides, and pesticides.

Dr. Pedro Sanchez, Professor and Coordinator, International Program of Tropical Soils at North Carolina State University, spoke about farming on marginal lands and reported on the results of U.S.-AID sponsored research in the Amazon area. The project demonstrated techniques for use on poor soil, emphasizing "sustainable" methods of production that do not degrade the environment.

The report states: "Dr. Sanchez explained that with rela-

tively low levels of soil inputs such as fertilizers, and rotations of crops, the agriculture yield could be doubled. When the fertility of the soil is too reduced to continue cropping, a fallow season with an appropriate ground cover will eliminate weeds, restore fertility, and retard erosion.

"Dr. Sanchez's research in this area is currently exploring the next cycle of cropping for its productivity and sustainability. This kind of system can increase productivity for farmers, enabling them to remain in one geographic area and practice productive agriculture. Such developments could bring a halt to the continual migrations that are responsible for decimating the tropical forests."

Water supply is another constraint on food production.

Dr. Joyce Starr, Co-Chairman of the U.S. Global Strategy Council, said: "The world does not have enough water to drink, not enough water for agriculture, not enough water for industry...Water is a conflict issue."

She criticized the lack of long-term water resource planning in the U.S. and abroad, indicated several technological breakthroughs that could be pursued, but saw little of the leadership required to do so.

Witnesses recommended various actions throughout the hearings, grouped roughly in the following areas:

+ Agricultural development, emphasizing new crops that can adapt to harsh environments, resource conserving methods of food production on marginal lands, mariculture in coastal areas, biotechnology research, and flexible agricultural systems.

+ Population growth policies, involving recognition of importance of population growth effects on economic development, environmental protection, per capita food consumption, and other needs; increased attention to family planning programs; data collection and research on causes and consequences of rapid population growth. Recommendations addressed programs to prevent or avoid conception, not to terminate pregnancies. Witnesses did not discuss abortion.

+ Social and economic development, focussing on education and public health, the role of women in population growth rate reduction and in agricultural production, and increased education and job training for women.

+ Environmental and natural resource protection, emphasizing protection of marginal lands, prevention of erosion and desertification, water conservation and use planning.

+ Debt alleviation, suggesting that methods of trading debt for developing and conservation goals in developing countries should be supported by U.S. policy.

"The Global Food and Population Equation: A Fragile Balance" is available through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 at \$1.75. A complete record of the hearings is published in "Overview of the Global Food and Population Situation" Committee Print 101-3, 101st Congress.

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D.C. Infant Mortality Reaches Epidemic Status

Infant deaths in Washington, D.C. are occurring in epidemic proportions. The number of infants who died in the first half of 1989 before reaching their first birthday is estimated by the Department of Health to be 169, an infant mortality rate of 32.3, the Department said this week.

Infant mortality in D.C. for 1988 was 23.2, a level that was already climbing from a rate that had dropped below 20 in 1987. In comparison, the Centers for Disease Control (CDC) estimate that for 1988 the infant mortality rate in the U.S. was 9.9 percent.

The D.C. data is alarming to public health experts not only because a 50 percent increase in the space of six months is unprecedented for a major city, but also for its implications to other cities and to the nation as a whole.

City health officials said they were stunned by the precipitous rise. They indicated they had expected some increase over 1988 because of the rising use of crack cocaine, particularly among women, but were not prepared for the magnitude of the current development. Crack and cocaine increase the risk of premature labor and other fetal problems.

With the use of crack cocaine rising generally in urban cities and particularly among young women, the prospect for other population centers to duplicate the D.C. experience is sending chills down the spine of national health officials. If the condition becomes a national problem, the steady decline in the infant mortality rate could start to climb again.

D.C. health officials were not only stunned, they were also in a state of shock. "No one in this area knows what to do," one said. "I don't know what to do about social pathology and decay in half the city," he told the Washington Post.

Focus Health Resources On Need, U.S. Panel Says

The Public Health Service (PHS) proposed this week that health resources be focussed on pregnant women whose fetuses are at risk with less attention given to healthy women whose fetuses are at no apparent health risk.

The recommendations, based on a report by a panel of medical experts, represent a basic shift in U.S. health policy, and will probably be controversial. They come on the heels of growing concern over the apparent failure of the public health system to find an effective strategy to cope with the impact of drug use by pregnant women.

The panel report said many procedures and tests performed on healthy pregnant women are expensive and time consuming and provide no real benefit. PHS is sending a copy of the report to every health care agency in the U.S.

Dr. Mortimer G. Rosen, panel chairman, said "We are shifting emphasis from the healthy patient to the patient at risk," acknowledging the recommendations are "a major shift in prenatal care" policy. Rosen is head of the Department of Obstetrics and Gynecology at Columbia College of Physicians and Surgeons in New York City.

The report called for more emphasis on helping women whose babies are at risk for problems such as low birth weight or prematurity because the mothers are poor or lack medical care or because they abuse drugs or alcohol. The panel said more attention should be paid to counseling all women before pregnancy about factors that increase the health risk to the fetus, including poor nutrition, smoking, genetic disease and drug abuse.

The panel proposed that more resources be devoted to services for women with high-risk pregnancies, including counseling on nutrition and drug abuse. The report did not examine the cost of additional health services or the savings that would result from dropping unneeded procedures.

Currently about 40 percent of the 4 million women who give birth each year experience no apparent risk factors prior to or during pregnancy. These 1.6 million pregnant women would not be subject to routine testing that includes screening for protein in the urine at every prenatal visit, Pap tests for women who already have had one in the previous year, routine blood pressure measurements at every visit and more than one pelvic examination.

The report was commissioned by Dr. Duane Alexander, Director of the National Institute of Child Health and Human Development (NICHD). "We asked the panel to look at what was known and had been studied about prenatal care, what we were doing because it was tradition and what had a scientific basis. We hope the medical community will take a close look at the report and that physicians will evaluate their own practices and care."

Women with low risk-pregnancies should have 7 or 8 prenatal visits rather than the usual 13, the panel said. Routine weekly and bi-weekly visits at the end of the second and third trimester of pregnancy are excessive.

More attention should be given to high-risk pregnancies, including a variety of social and medical services ranging from proper nutrition to counseling on stopping the use of alcohol, drugs and cigarettes.

Job Market

Cornell Cooperative Extension is looking for a nutritionist to develop and manage education programs in food, nutrition and health in Monroe County, NY. Candidates need a Master's in nutrition and two years experience as an Extension agent or equivalent work in teaching or education in an academic, human service, or industry setting. Contact Barbara J. Eshelman, Box 29 Roberts Hall, Cornell University, Ithaca NY 14853. Send a letter of intent, your resume and transcripts. If you miss this one, don't despair; other openings are expected.

Half of Black Children Live in Poverty in U.S.

Nine of every 10 black children in the U.S. are living in poverty, a new congressional study said this week.

For black children, the report by the House Select Committee on Children, Youth and Families said, the problem is the absence of two-parent families.

"Children from mother-only families are nine times more likely to have incomes of less than \$10,000 per year than those living with both parents. Among children living in two-parent families, income distributions look much more similar across all races," the study found.

The report traces demographic trends over the past decade, noting that while the U.S. birthrate remains well below the peak years of the baby boom, the rate among non-whites continues to be higher than among whites. Over time, a steadily growing proportion of children in America are born into disadvantaged conditions. One of every three children in America will be from a minority group by 2010, the study concluded.

The key role of two-parent families is highlighted implicitly in the statistics comparing black and Hispanic children. While Hispanic children overall are less likely than black children to be living in poverty, the proportion of Hispanic children living in poverty in homes headed by women slightly exceeded that of blacks.

The study provided a battleground for Republicans and Democrats to don partisan weapons. "The test now is whether we are motivated to act swiftly to reverse these alarming trends in the 1990s or whether we will enter the 21st century besieged by the worst effects of our failure," Rep. George Miller (D-CA) committee chairman, said.

Nonsense, replied the Republicans in a minority report. This isn't the Federal government's problem, they said. "Families are no longer doing the job for themselves."

Food and Health Issues Poorly Covered by Press

Food and health related stories were among the "top ten underreported stories of 1988" selected by Project Censored, a media research program at Sonoma State University.

"How the EPA pollutes the news", "The dangers of food irradiation", "Acid rain -- one of America's biggest killers", and "Children are dying to pay the third world debt" were identified as "stories about sensitive issues which were not widely publicized by the news media", reported EDITOR & PUBLISHER Magazine, June 10, 1989.

The magazine presented Project Censored descriptions of the stories:

+ EPA -- "Reports of improvement in environmental pollution levels in 1988 were a deliberate attempt by the Reagan Administration's Environmental Protection Agency to mislead and pacify the public, according to a former EPA press officer. Also revealed was the Administration's policy to invite corporate executives to the White House to discuss revisions in pending EPA regulations in an effort to reduce costs to industry".

COLUMBIA JOURNALISM REVIEW told the story in the Nov./Dec. 1988 issue, "Dead fish and red herrings: how the EPA pollutes the news" by Jim Sibbison.

+ Food Irradiation -- "While scientific research warns of potential dangers from consuming irradiated foods and despite at least one serious contaminating accident at a food irradiation plant in 1988, the U.S. Department of Energy still plans to set up 1,000 food irradiation facilities around the country within the next ten years."

"Large amounts of radioactive waste, which currently pose a critical disposal problem for the DOE, will be used to process the food".

Stories on the subject appeared in THE WORKBOOK, Apr./June 1988, "Food irradiation: its environmental threat, its toxic connection" by Judith H. Johnsrud, and NORTH-EARN SUN NEWS, Dec. 1998, "Update on food irradiation" by JoAnne Korkid.

+ Acid Rain -- "Acid rain, once considered to be a threat only to crops, trees, and fish, is now reported to be a significant threat to human health and lives. The U.S. Office of Technology Assessment, an advisory board to Congress, rated acid rain as much more dangerous in 1988 than it was in 1984 when OTA estimated the annual American death toll due to acid rain at 50,000 to 200,000.

"In 1986, the Brookhaven National Laboratory of New York estimated that acid rain kills annually 50,000 Americans, plus 5,000 to 11,000 Canadians".

VANGUARD PRESS, Jan. 28, 1988, presented "Acid rain is killing five to 20 times as many Americans as AIDS" by Marritt Clifton.

+ Children Dying -- "The state of the world's children", a UNICEF report issued in 1988, revealed that more than a half million children died in 16 developing nations last year because their debt-burdened governments cut back on social spending in order to repay debts to bankers in industrialized nations, including the U.S. All together, UNICEF estimates that 900 million people, mostly women and children, are now suffering because of those debts".

Reporting the story were USA TODAY, Dec. 21, 1988, "World's children pay debt with their lives" by Marilyn Greene, and SAN FRANCISCO EXAMINER, Dec. 21, 1988, "Children hardest hit by resurgence of global poverty" by John Madeley of the LONDON OBSERVER.

Rhoda H. Karparkin, executive director of Consumers Union, was a Project Censored judge. Project director was Carl Jensen, professor at Sonoma State.

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Food Agency Looming In Food Policy Future

One of the better kept Washington secrets is in danger of leaking out -- i.e., there is no national food policy, particularly when it comes to food safety.

Responsibility for food policy -- i.e., food safety, nutrition and health, and related programs -- is scattered among several agencies. The turf is jealously guarded, and neither Congress nor the Bush Administration has wanted to try to coordinate a coherent policy. As a result, food safety programs are deteriorating, and public health is at greater risk than at any time since 1945.

To avoid a political explosion when the public discovers the fact, several different proposals from widely different sources have been raised in recent weeks in support of a single food agency. It is an idea that surfaces occasionally but never on the part of so powerful a potential coalition of interests.

Rep. John Dingell (D-MI), the strong-willed chairman of the House Commerce Committee which has jurisdiction over health, is reported this week by Food Chemical News to be preparing a legislative package for a single food agency. It would combine units now within the Food and Drug Administration (FDA) and the Department of Agriculture (USDA), with parts of several other agencies.

A week earlier, John Block, who was President Reagan's first Secretary of Agriculture and left to become a Washington lobbyist for food wholesalers and retailers, called for a "superbody" that could speak at the Federal level with authority on food safety.

"The thing we have not done is to establish one single credible superpower to make the decision on what is safe or not," Block said. "We have too many people who feel they can answer the bomb throwers who create hysteria and we

can't get anything done," he told a leadership workshop at the National-American Wholesale Grocers Association, the group he heads. The problem is, as a recent Food Marketing Institute study found, the American people have greater trust in consumer organizations than in Federal regulators.

There is good reason for consumer distrust, ironically because of some of the actions taken by Block and his fellow Reaganites. Block reversed several rules to protect the safety of meat and poultry at the request of the meat industry. FDA allowed harmful food additives to be put into food over the protest of scientists, and refused to halt the use of other cancer causing substances.

Industry was not alarmed, however, until State governments began to enforce state laws, as California has done through Proposition 65 and the Texas Attorney General did recently in suing Quaker Oats for making false health claims. Individual grocer chains have banned food containing pesticides, hormones and other chemicals the Federal government insists are safe. The food industry is becoming alarmed, as Lyle Everingham, head of Kroger, Inc., a grocery chain, said recently, that "What we've experienced is really a capsule description of what food retailing in the 1990s is likely to be all about."

Rep. Dingell is less concerned about industry fears, however, than about the prospects of USDA becoming the U.S. food agency. Dingell has held hearings intended to promote FDA as the focal agency for seafood inspection, an issue that is gaining attention in Congress. Rather than follow his lead, however, other members have introduced legislation to give USDA jurisdiction.

Dingell appears to be developing arguments that the rise in food poisoning due to salmonella is caused by inept USDA management of food safety rules. He could use the impending food poisoning scandal to argue for a single food safety agency, one not within USDA jurisdiction, that would also inspect fish.

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Testimony

of

Ivan W. Wyatt, President
Kansas Farmers Union

Testimony of Ivan Wyatt, on behalf of the National Farmers Union, before the U. S. House Committee on Agriculture Subcommittee on Wheat, Soybeans and Feed Grains.

Thank you, Mr. Chairman. My name is Ivan Wyatt and I serve as president of the Kansas Farmers Union. In that capacity, I also serve as a member of the board of directors of the National Farmers Union. It is on NFU's behalf and its nearly 300,000 farm families that I am testifying today.

As an organization, the National Farmers Union has long believed that the maintenance of grain reserves should be an integral part of an overall agricultural policy designed to manage supplies so that consumers are ensured of adequate supplies of food and so that producers receive fair prices for the product of their labor and investment. Within that overall policy, grain reserves can serve a variety of important functions when a grain reserve program is properly implemented and administered.

The first and foremost function of a grain reserve is to serve as an insurance policy for consumers to guarantee them there will be adequate food supplies available when we suffer weather related disasters, such as those we have experienced the last two years in the U.S., which reduced planned and expected harvest supplies. In that capacity, grain reserves also act as an assurance to our customers that we plan to be reliable suppliers of their needs year in and year out.

A grain reserve program, when properly administered, also serves yet another important function. It provides a means to isolate supplies from the marketplace so that farm gate prices do not fall to disastrously low levels when weather has been good and we have harvested more than the market can consume.

That was how the Farmer-Owned Reserve (FOR) program was designed to work when it was established by the Food and Agriculture Act of 1977. The basic intent was maintained in subsequent modifications of the FOR in the 1985 Food Security Act.

Unfortunately, both the current and immediate past Administrations do not agree with the basic premises on which U.S. grain reserve policy was established by Congress. Over the past several years, the Administration has refused new entries in the FOR and has done everything within its power to reduce both FOR stocks and government stockpiles. The Administration fairly consistently has refused to allow extension of FOR stocks as they

have come due and has used government stocks, acquired through the price support loan system, to hammer grain markets lower every time markets have responded by climbing above levels determined by federal policymakers to be "market clearing" as it attempted to clean out government grain bins.

In that regard, one has to say the Administration has been successful. Between its efforts to reduce stock levels and the recent droughts which reduced anticipated grain production, grain stocks levels worldwide have been reduced to levels not seen since the early 1970s when the world was worrying about adequate production and whether there would be sufficient supplies to meet world food aid needs.

If there was any doubt about the level to which we had cleaned out our grain bins, it recently was dispelled when the U.S. Department of Agriculture (USDA) announced it was tapping the Food Security Wheat Reserve for 1.5 million metric tons of wheat in fiscal year 1989 and 2 million tons in FY 1990. That was the reserve Congress set aside to ensure we were able to meet our food aid commitments to the world's hungry and was to be used in only the most dire of circumstances.

Given the recent history of USDA's management -- or mismanagement -- of the FOR and the stocks it has acquired itself, the Farmers Union believes Congress needs to give USDA clearer directions on how Congress intended the FOR to work. Recognizing improvements were needed in the FOR program, delegates to the NFU's 87th annual convention recommended that the FOR "be revised and improved so that:

- "a. it functions as an 'ever normal' granary;
- "b. loans are at 110 percent of the base loan rate;
- "c. storage is paid farmers at commercial rates;
- "d. it includes all storable crops;
- "e. immediate entry into the farmer-owned reserve should be permitted;
- "f. extension of loans should be granted if market prices are below release levels at time of maturity of reserve loan."

While implementation of those recommendations would improve the U.S. grain reserve program, it still would fail to deal with one of the central problems with current grain reserve policy -- the grain reserve program is just a U.S. program. The U.S. is bearing virtually all the burden of maintaining and carrying world grain stocks. The rest of the world is not bearing its fair share of the responsibility.

It was to correct that inequity, and to hopefully return some sanity into the global grain marketing system, that the NFU nearly two years ago urged the creation of a new international General Agreement on Agricultural Production and Prices (GAPP) to establish broad ground rules for the coordination of global grain

production and marketing. One of the central elements of the GAPP proposal also was the establishment of guidelines for the establishment and management of food reserves by all the major grain producing and consuming nations, not just the U.S.

When the Farmers Union advanced its GAPP proposal, the NFU envisioned it as being a better substitute for the agricultural negotiations currently taking place under the General Agreement on Tariffs and Trade in which the primary focus to date has been how best to dismantle domestic food and agriculture programs.

Unfortunately, the current U.S. Administration has embraced that latter idea with a passion and appears determined to accomplish that goal unless Congress orders otherwise.

Certainly, many members of Congress and this subcommittee have expressed reservations about the Administration's expressed goals within the GATT and over its grain reserve policy.

One alternative to current Administration policy that is being circulated in Congress and has merit, but has yet to be formally introduced, deals specifically with the global reserve issue. That is a proposal advanced by U.S. Senators Kent Conrad of North Dakota and Robert Kerrey of Nebraska urging President George Bush to negotiate a Food Reserve Coordination Agreement as part of the Uruguay Round of the GATT.

The Conrad-Kerrey proposal, which we understand will be introduced soon, is not as comprehensive as the NFU's GAPP proposal in that the Conrad-Kerrey proposal does not address the price issue. It is a broad step forward, however, in that it calls for a negotiated agreement that would:

- establish food reserve levels to be carried by the participating countries;
- establish rules as to their maintenance and isolation from the marketplace until needed;
- require participating countries to share in reducing production according to guidelines established in the agreement when surplus production raises stocks above agreed levels;
- and establish the principle that food reserves could include storable food commodities, other than just grains, such as oilseeds and dairy products.

The successful establishment of such an agreement would be a vast improvement over the current situation in which the U.S. bears the major burden of production adjustment and stocks maintenance. It also is an achievable goal, provided the U.S. takes a positive lead in seeking such an agreement.

Given recent history, however, it is clear the U.S. will take a lead in seeking such an agreement only if the Congress orders it to be taken. We would urge Congress to do so because it is clear the current Administration will not do so otherwise.

In closing, I think it is clear that given the world's food production capacity and new technology that is emerging, we will have reserves of food stocks in most years when weather does not intervene and dictate otherwise. The question is not whether we will have food reserves, but how we will manage them. Will we manage them well, so they are available when needed but not a detriment to our producers? Or will we not manage them well and wreak havoc with the agricultural economy and wake up one morning to find them inadequate in time of need? Those are the questions facing this subcommittee and the world at large.

**STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION
TO THE HOUSE AGRICULTURE SUBCOMMITTEE
ON WHEAT, SOYBEANS AND FEED GRAINS
WITH REGARD TO GRAIN RESERVE POLICY**

**Presented by
Harry Pearson, President, Indiana Farm Bureau, Inc.
and Member, AFBF Board of Directors**

October 12, 1989

Thank you Mr. Chairman. My name is Harry Pearson. I am a corn, soybean and wheat producer in Indiana, president of the Indiana Farm Bureau and a member of the board of directors of the American Farm Bureau Federation, on whose behalf I appear today.

The Farm Bureau greatly appreciates your decision to hold this hearing on grain reserve policy. Too often in the past, grain stocks policy has been given only limited attention in policy discussions, while most of the focus has been on issues like loan rates, target prices, acreage idling programs and international trade. The best time to discuss grain reserve policies is when stocks are at reasonable levels, as they are now. As you may remember, in the 1985 farm bill debate, the focus was on how to control burgeoning grain stocks. However, relatively little thought was given to the longer term policy implications.

Reduction of burdensome carryover supplies has been one of the major achievements of the Food Security Act of 1985. Weather conditions contributed to the reduction, but carryover supplies for both wheat and feed grains would have declined in 1988 under normal yield conditions.

Grain reserve policy encompasses a variety of issues that fall into two broad categories. The first involves establishing the basic policy objectives for programs affecting grain stocks and the second addresses the mechanics of implementing those policy goals. If government grain reserve programs are to be effective and beneficial, Congress must define its policy objectives and then develop appropriate and consistent policy instruments that will achieve those objectives.

There are many political, social and economic issues that influence grain reserve policy. These range from attempts to support farm income to providing emergency food assistance to lesser developed countries. The essential grain reserve policy objective that Congress must determine is a choice between fundamentally different approaches to government involvement in agriculture. They are:

1. A comprehensive grain storage policy that attempts to constrain the movement of grain prices within a specifically defined range; or
2. A grain reserve designed to respond to emergencies of both supply and demand.
3. A policy that calls for no government stocks management role at all.

The concept of a comprehensive reserve program was very much a part of the creation of the farmer-held reserve program in 1977. The price swings of the early and mid-1970s, which were caused more by monetary policy and political changes, led to intense interest in moderating price swings through a stocks management policy. Market prices were to be managed in a well defined range with the price support loan as the bottom side and the release price for grain in the reserve as the top side. If market prices exceeded the release price, calling the grain in the reserve and selling CCC-owned stocks were the ultimate weapons to be used to limit price increases.

Given the wide swings in prices and stocks that have occurred over the past 12 years, the comprehensive approach has to be considered less than successful. In a couple of instances, large acreage reduction programs have coincided with major droughts, indicating the problem with trying to integrate the storage programs into overall farm programs. Actions in the 1985 farm bill to limit the maximum size of the farmer-owned reserve to 17 percent of wheat usage and 7 percent of feed grain usage indicate that the policy pendulum was already swinging away from the comprehensive program in 1985. Language in the FY 1988 budget package also reduced the minimum level of grain to be held to 300 million bushels for wheat and 450 million bushels for feed grains.

Farm Bureau opposed extension of the farmer-held reserve in 1985 because the experience from 1977 to 1985 clearly showed that reserve supplies had a tendency to build to burdensome levels. Once these supplies are built, market prices are depressed, farm program costs grow rapidly and more government intervention results. Nothing has happened since 1985 to change that belief.

A comprehensive grain storage policy is at odds with a market-oriented farm program. We cannot expect market prices to accurately signal production and consumption changes if storage policy dictates continued government intervention in the setting of market prices.

The policy response that is diametrically opposed to the comprehensive reserve approach would be to eliminate government reserves altogether. This would require major changes to other program provisions such as the basic

nonrecourse loan in order to assure no government control or ownership of grain. Farm Bureau policy does not advocate this policy direction and because of the extensive nature of changes necessitated to put it into place we consider it impractical.

The alternative to a comprehensive grain storage policy aimed at managing price fluctuations is a "buffer" stocks approach that responds to crises of overproduction but also provides emergency food relief in times of need. The mechanics of this form of program are simpler than those for a comprehensive reserve program. It promotes storage of grain when domestic production is excessive and release of stocks triggered by conditions of need that may arise in low income countries or in other emergency situations. The important distinction between it and the comprehensive policy is that this program is intended to buffer market reactions rather than trying to regulate market activity.

The goal of storing abnormally large crops in this country has been part of Farm Bureau policy for the last several years. Farm Bureau policy calls for extending the regular nine-month loans for an additional nine months when supplies are large. That would provide for some temporary support to the market without the level of market intervention that occurs under the comprehensive approach to grain storage.

The key to making a buffer-type program like this work is to let market forces set production and consumption decisions. Farm income should continue to be supported through direct payments from the government rather than through government intrusion in the market setting of prices.

One program already exists that is emergency in nature, the Wheat Security Food Reserve. This was created by Congress after the embargo against the Soviets using 4.0 million metric tons of wheat that was already in CCC inventory. It is designed to be used to help lower income countries meet food needs when U.S. supplies are in relatively short supply. This reserve was tapped for 1.5 million metric tons last fiscal year and will be drawn on again this year. The reserve will be replenished in future years when supplies are again large.

As I stated earlier, once the basic policy goal is established, then consideration must be given to program operation. Reserve management policies that are very important include: stocks objectives for total stocks and reserve stocks; price objectives for grain entering the reserve; release price triggers; budgetary cost of reserve programs; and storage payment rates.

Farm program managers have to consider two stock objectives, total stocks and reserve stocks. The total stocks objectives drive considerations about the size of voluntary acreage reduction programs and paid land diversions. If a comprehensive stocks policy is pursued, then the reserve stocks

must adjust up and down each year so that market prices stay within the price band established. The Secretary of Agriculture needs a high degree of discretionary authority to run the reserve to meet the price objectives.

Under the more desirable buffer stocks approach, reserve stocks objectives can be set in advance and decisions made on the basis of the need to add to reserves or draw them down based on market conditions and the level of reserves currently held. The reserve stocks objective will be influenced by the total stocks objective. If acreage reduction programs and other farm programs are run with relatively high total stocks objectives, then less will need to be held in emergency reserve stocks.

Even a cursory review of release prices for grain in the farmer-owned reserve and CCC-owned grain, market prices and carryover stocks shows that release prices for reserves over the last 10 years have been out of line with market reality. In the Food Security Act of 1985, the release prices for the farmer-owned reserve were set at the target price or 140 percent of the loan rate, whichever was higher. Since market prices never hit the release prices, even during the drought of 1988, it's clear that a change is needed.

Some people suggest tying the release price for reserves to the market price. Since price support loan rates are tied to a percentage of the five-year moving market average for prices, excluding the high and low years, some have suggested tying the release to the same price series. Price support loans are tied to 75-85 percent of the average and the release price could be set at 120-140 percent of the average market price, with the Secretary of Agriculture having the authority to set the exact level based on market conditions. Others have suggested setting it at 150 percent of the most recent year's average market prices. Perhaps the grain could be released in stages. The key is that the release price would be tied to market activity.

A price objective for allowing grain to enter the reserve will also need to be set. For 1980 through 1985, loan rates were generally high enough in relation to market prices so that farmers could enter the grain into the reserve with little or no loss in cash flow. With loan rates now set at much lower levels, there will need to be a new trigger for allowing grain to enter the reserve. Management of the reserve is likely to be more flexible than earlier.

As with the reserve stocks objectives, the price objectives for grain entering and exiting the reserve will be influenced by the policy objective of the reserve. An emergency reserve would have a wider price band between entry and exit than a comprehensive grain storage policy. If specific quantity limits are placed on the reserve, some type of bid process for entry could be established.

One generally accepted assumption about the 1990 farm bill is that budget considerations will be important. As it relates to grain reserve policy,

two major budget issues have to be addressed. The first is the budget outlays for an emergency reserve program versus a comprehensive program, and the second is whether producers benefit more from money being spent on storage programs rather than on some other program of benefit to producers.

As the experience of the 1980s has shown, political or economic miscalculations in a comprehensive grain storage policy can lead to substantial budget outlays and these outlays can vary greatly year-to-year. An emergency reserve program can probably be run for less money and with less year to year variation in costs. Some type of bid system for entering grain into the reserve may help reduce the cost.

While a grain reserve program that relies mainly on farmer storage programs can put money into farmers pockets, it is not an efficient way to transfer money and only those who have on farm storage benefit. Under the 1981 farm bill, storage payments to farmers averaged about \$560 million per year; and under current law, storage payment have averaged about \$575 per year. The direct transfer programs, like deficiency payments under the target price support program, probably make for a more efficient transfer.

The most important policy question is what type of grain reserve policy is desired. Policy decisions in recent years appear to be shifting away from a comprehensive policy to one to meet emergency needs. This is driven by a combination of problems with the policy over the last 10 years and interest in limiting budget outlays. Regardless of the type of reserve, carryover stock and price objectives are critical to managing a reserve program. A grain reserve program should not be asked to do jobs that are clearly the responsibility of other policy tools, like supporting income and encouraging participation in other programs.

Statement of

David Lyons
Vice President
Louis Dreyfus Corporation

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to have the opportunity to appear before you today to share with you the National Grain Trade Council's views on grain reserve policy as the Subcommittee prepares for the 1990 farm bill debate. I am David Lyons, vice president of Louis Dreyfus Corporation which is headquartered in Wilton, Connecticut. I am a member of the Council's farm policy committee.

The Council is a national trade association whose regular members include grain exchanges, boards of trade, and national grain marketing organizations. The Council has a number of associate members representing a large cross-section of the grain marketing industry.

We believe it is important for the Subcommittee to review the role and operation of the reserve program in the context of overall farm policies. U.S. and world stocks of grains are now at minimal levels, in sharp contrast to recent years when stocks -- including those in the farmer-owned reserve program -- ballooned to unmanageable levels. It is our hope that this Subcommittee will foster the kind of policy environment that lets markets work and precludes a return to that unfortunate situation.

We see reserve stock policies as an integral part of our overall farm program. Our recommendations today are predicated on the continuation of one key goal established in the 1985 farm bill: namely that U.S. agricultural commodities will be priced at levels competitive in world markets, and that loan levels will reflect a percentage of recent average market prices. A change in that policy -- for example to raise loans above market-clearing levels -- risks U.S. competitiveness and a return to large stock levels.

Lest there be any doubt, the National Grain Trade Council supports the basic policy direction set in the 1985 farm bill. While we have and will make recommendations to adapt the 1985 legislation to the environment of the 1990s, we believe it is essential to maintain that policy direction.

As we focus on that policy today, the Council offers as general goals that stocks policies be as simple as possible, ensure flexibility to meet changing market conditions, and treat reserve stocks as a legitimate buffer, so that they are available when there is humanitarian and commercial need.

Stocks and reserve policies generally fall into the category of supply management. As a general caution, we would observe that government measures that limit production and marketings in an effort to manage commodity price levels and contain farm program costs have a down side. Not only do such measures reduce the efficiency of the American agricultural production and marketing sectors today, they encourage foreign production that will compete with U.S. production in world and domestic markets tomorrow.

There is another problem in the case of stocks. They overhang the marketplace, depressing upward price movements. While there have been many attempts to isolate those stocks, it has proven impossible. Reserves cannot take the lows out of a weak market without taking the highs out of a stronger one.

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On the other hand, our stocks have been the critical component available to the United States this year and last, when weather and large land retirement programs combined to reduce production dramatically.

Reserves were first made a formal part of the the United States' farm programs in the early-1970s in response to concerns over the possibility of scarce food supplies. There were, of course, reserves before that time which were carried by the market. As we discuss stocks policies, we should bear in mind that reserves can and will be carried by the market in the absence of government programs. Carrying charges in the market would entice both farmers and merchants to carry stocks forward in times of abundance.

Emergency Food and Feed Reserves

The Commodity Credit Corporation has maintained emergency wheat and feed reserves to deal with short-term emergency food and feed needs. These programs are modest in scope and highly focused in purpose:

The Food Security Reserve is authorized at 147 million bushels of wheat for humanitarian purposes. P.L. 480 Title II donations and Title I needs are met by the reserve when there is not sufficient time to buy commodities in the marketplace.

Another 50 million bushels of wheat are authorized in the International Emergency Food Reserve.

Up to 75 million bushels of wheat, feed grains, and soybeans are authorized for a Disaster Reserve. Feed grains currently are the product USDA has maintained in the reserve.

Little is needed to alter the basic structure of these emergency reserve programs, although changes could be made to improve their operational efficiency.

CCC Inventory

Compared to emergency reserves, the usually far-greater inventory held by CCC is comprised of stocks acquired through loan forfeitures. By law, these stocks cannot be sold on the market for a price less than 110 percent of any FOR trigger price. Only through certificates and auctions were these stocks made available to the market for the past four years.

While there are no limitations on the size of inventory CCC may hold, the ideal goal should be to never have CCC stocks. With market-oriented loan rates, a strong demand base, and

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marginal acres that are no longer contributing to surpluses, the frequency of loan forfeitures should be reduced. A market-oriented farm policy should result in minimal CCC stocks.

To keep those CCC-acquired stocks liquid, however, resale prices need to be set at more appropriate levels. The resale price for soybeans is 105 percent of the effective loan rate; the resale price for wheat and feed grains should be set at 115 percent of the effective loan rate. CCC, when selling its stocks into the market, should do so in a manner that facilitates orderly marketing.

Farmer-Owned Reserve

The Farmer-Owned Reserve was established in the 1977 Food and Agriculture Act to allow producers of wheat and feed grains to store such commodities when they

"... are in abundant supply and extend the time period for their orderly marketing. The Secretary shall establish safeguards to assure that wheat and feed grains held under the program shall not be utilized in any manner to unduly depress, manipulate, or curtail the free market."

The 1985 farm bill added the following phase to the purpose: "... and provide for adequate, but not excessive, carryover stocks to ensure a reliable supply of the commodities."

Despite the stated purpose of the reserve, reserve policy moved in a different direction following the 1980 grain embargo. The FOR took on the role of a price-support tool to isolate large quantities of grain from the market. With quantities locked away, free stocks became tight, pushing market prices up, and letting other exporters take business away at prices just below FOR release prices. The FOR, like ARPs, made the United States uncompetitive.

The Council believes the purpose of the FOR should be clearly defined: to encourage orderly marketing, provide a buffer stock for weather and economic shocks, and ensure a reliable supply of U.S. grains. Without a clear purpose, the reserve may again be asked to do too much -- repressing price movements.

The FOR now has upper size limits and minimum levels. The maximum quantity for wheat and feed grains is 30 and 15 percent, respectively, of total disappearance. The minimum limits are 300 million bushels for wheat and 450 million bushels for feed grains, although these minimums apply when supplies are abundant and market prices do not exceed 140 percent of the loan rate.

In view of the other reserve programs operated by the Department the Council is generally comfortable with the levels of 300 million bushels of wheat and 450 million bushels of feed grains and recommends that these be the established targets for the FOR.

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Under current provisions, entry is largely at the discretion of the Secretary of Agriculture within the parameters set by law. We believe that discretionary authority for the Secretary is appropriate and should be retained. Based on past experience, we would caution against creating special incentives for entry; the rapid escalation of the reserve loan price in the 1980s led to a rapid accumulation of stocks.

The Council suggests retaining provisions that preclude reserve entry when market prices are strong -- an appropriate level would be 135 percent of the loan. This approach would be consistent with the purpose of the reserve. When prices are strong and the market is calling for those bushels, there is no reason to build stocks. The incentive should be to market.

Currently, the release of grain from the reserve is set by law at 140 percent of the loan rate or the current target price, whichever is higher. Long before prices reach this high release level, domestic and export demand has been lost. In 1984, for example, this resulted in large stocks being locked in the FOR while domestic livestock producers were reducing livestock numbers and foreign buyers were looking for alternative sources of supply.

To address this problem, the Council recommends that when market prices exceed 140 percent of loan rates, storage payments to farmers cease and farmers be permitted to sell reserve grain. Unless some adjustment is made in storage payments, they will continue to be a powerful incentive to store grain even though those stocks are needed in the marketplace.

Market incentives for farmers to sell their crops should not be overwhelmed by storage incentives. We also suggest that instead of making the full storage payment in advance, that only a modest amount be made up-front, perhaps 25 percent, with the balance paid quarterly.

The length of FOR contracts also needs review. Under current law, the FOR agreement extends the original loan for three years. We believe this has proved to be too long of a time period and recommend the FOR contract be limited to a maximum of 18 months beyond the 9 month price support loan term with no extensions permitted. We believe this step would keep the reserve fluid, with grain moving through and not encourage a large reserve build-up. This change would also mean a lower likelihood of quality related deterioration.

Certificates and Weekly Auctions

With the Council's recommendations to change the FOR release mechanism and set more appropriate resale prices for CCC inventory, certificates and weekly auctions should not be needed. USDA, however, should not be precluded from using these tools if needed to maintain liquidity in the cash market.



National Grain and Feed Association

Statement of the

the National Grain and Feed Association

By Kendell W. Keith, Executive Vice President

Before the

**Wheat, Soybeans and Feed Grains Subcommittee
House Agriculture Committee**

October 12, 1989

Mr. Chairman and members of the subcommittee, the National Grain and Feed Association is pleased to be here today to discuss what we believe is one of the more important aspects of the 1990 farm bill.

My name is Kendell Keith, and I am executive vice president of the National Grain and Feed Association. The NGFA is a voluntary association of grain and feed firms ranging in size from the smallest country elevator to the largest grain and feed complex. Our members represent a broad cross-section of America's grain and feed industry, which is comprised of country and terminal elevators, grain merchants, processors, feed mills and international exporters. Our members store, handle, merchandise and process more than two-thirds of all U.S. grains and oilseeds.

The NGFA commends this Subcommittee's efforts to build a solid record on such a crucial issue as reserve and stocks policy before consideration of the 1990 farm bill begins in earnest next year. Dramatic drawdowns in U.S. grain stocks in the past year, combined with the expiration of current farm law, make this an opportune time to examine a matter of great significance to U.S. agriculture.

Market-oriented changes made by Congress in the 1985 farm act -- namely, market-clearing loan rates and the advent of the generic commodity certificate program -- have helped bring U.S. agriculture out of the doldrums of stagnant markets and ushered in a more vibrant market featuring stronger domestic and export demand that has stimulated

the overall farm economy. However, in continued pursuit of a more market-oriented agricultural policy, additional changes are needed in certain aspects of farm programs -- including the farmer-owned grain reserve and the policies governing liquidation of the Commodity Credit Corporation's inventories.

In reality, had the generic commodity certificate program not existed, problems caused by the current farmer-owned reserve and CCC cash sales policy could have been much more apparent and much more severe. Considering that CCC confronted the difficult task of liquidating large stockpiles of government-owned or controlled inventories and the profitable disposition of millions of bushels of producer price support collateral stocks, the generic certificate program worked about as well as could be expected in providing market access to such grains. This occurred despite structural impediments to such market access built into the current operation of the FOR and CCC's cash sales mechanism.

Indeed, the access provided by generic certificates to the large quantities of grains controlled by CCC helped compensate for production shortfalls resulting from the drought and excessive acreage reduction programs. As such, generic certificates and the marketing techniques in which they played a central role -- such as "PIK-and-rol" and the Export Enhancement Program -- helped the United States respond to the surge in domestic and export demand that occurred following passage of the 1985 farm act. Largely through these programs, CCC inventories of corn have been slashed from 1.5 billion bushels in 1987 to 332 million bushels as of August 1 -- a 78 percent decrease -- before rebounding to 462 million bushels today as a result of recent loan forfeitures. Similarly, for wheat CCC inventories declined from 905 million bushels in 1987 to 168 million bushels today, an 81 percent drop.

In the absence of a generic certificate program, it is questionable whether the domestic and export demand represented by these dramatic drawdowns in stocks would have been met through U.S. grains.

But now that CCC is holding reduced levels of stocks, generic certificates probably will play a much more limited role in providing access to government-controlled stocks. With it, their ability to overcome the structural impediments inherent in the existing FOR and CCC's cash sales policy will be diminished. That realization has caused our membership to believe that now is the time for Congress to make changes that will better allow the FOR and CCC to complement the more market-oriented aspects of the 1985 farm act.

Problems with the Farmer-Owned Reserve

During the past decade, the farmer-owned reserve program has been used for two distinct purposes. The first purpose has been to supplement farm income, both through "premium" reserve loan rates in some years and through advance storage payments to producers. An ancillary effect has been that these FOR stocks have been "isolated" from the market to artificially prop up prices, which also contributed to farm income at least during periods when stocks were being entered into the reserve. However, the market always "knew" those stocks were there, which had the effect of dampening what otherwise would have been more immediate and dramatic grain price increases during periods of greater demand and lower production. The second purpose has been to maintain adequate supplies for food security and to undergird the United States' reputation as a dependable source of supply.

Unfortunately, these two objectives of the FOR can and have worked at cross purposes with one another, frustrating both the intent of Congress and the needs of the marketplace for grain. The recent history of the FOR reveals that during periods when the market needed access to the stocks enrolled in the FOR to respond to increased demand, stocks could not be acquired readily. That action to isolate U.S. stocks from the marketplace became yet another signal to our foreign competitors to increase production and become more aggressive in their exports, safe in the assurance that the United States would not encourage producers to redeem grain from the FOR.

The FOR also has been unpredictable, plagued by frequent program changes that have hampered its dependability. Too often, abrupt changes have been made in the rules governing the reserve to serve short-term government objectives. Such rule changes tend to be highly disruptive to an orderly marketing system, and should be discouraged.

The NGFA believes that a prudent grain stocks policy should be founded on two basic principles:

--First, the need to maintain a food security reserve and meet humanitarian needs. In this regard, it is important to recognize that the FOR does not shoulder the sole -- or even the primary -- burden for fulfilling emergency needs. Rather, it is part of a wider strategic reserve that also consists of a 147-million-bushel Emergency Food Security Reserve and a 75-million-bushel Disaster Reserve consisting of feed grains.

--Second, to ensure that the United States remains a reliable source of supply to meet market demand.

Reserve Release Levels

One of the biggest problems with the FOR is its release levels. They are both too high and too inflexible to be responsive to market demand. The past several years are replete with situations illustrative of problems posed by FOR release levels.

An excellent case-in-point is found in the wheat market. Currently, USDA estimates that at the end of the 1989-90 marketing year, the United States will hold 494 million bushels of wheat. Of that, 150 million bushels will be enrolled in the FOR, representing roughly 30 percent of the total.

This wheat will be very difficult for the market to access, especially if generic certificates are in relatively short supply. Consequently, at the end of the wheat marketing year, there will be approximately 350 million bushels of wheat readily available to the cash markets to respond to demand.

There also have been situations in which selected classes of wheat have been imported to meet domestic milling needs, even while some quantities of the same classes of wheat remained locked up in the FOR. And, in an ultimate irony, there currently exists a situation in which wheat is being drawn out of the Emergency Food Security Wheat Reserve by presidential decree to meet food aid needs while comparable stocks remain unavailable because they are stored in the FOR.

There are similar examples in the case of feed grains. In corn, the severe 1988 drought significantly reduced stocks and caused prices to escalate sharply. Despite this obvious market signal for grain, and despite the fact that generic certificates were relatively plentiful, very little corn was liquidated from the FOR, with 740 million bushels remaining in the reserve at the end of the 1988 crop year.

But perhaps the classic example occurred in 1983, when a major acreage reduction program -- the infamous Payment-in-Kind program -- and a subsequent drought combined to significantly reduce corn stocks. Although cash market prices increased to levels well above release levels, nearly 450 million bushels -- representing more than 44 percent of the total corn carryout -- remained in the FOR at the end of the crop year.

Such examples provide ample evidence that stocks indeed can be "trapped" in the FOR, with market prices needing to rise to levels so excessive that alternate sources of grain supply can be found and demand for U.S. grains can evaporate before such prices are attained.

Policy Recommendations

Farmer-Owned Reserve

When analyzing the mechanism governing release of FOR stocks, it is important to recognize incentives that influence a farmer's decision whether to market reserve grain.

Currently, producers receive storage payments for their FOR grain one year in advance. Should producers wish to market their reserve grain, any unearned storage must be repaid. Consequently, producers must factor in the cash-flow aspect of repaying unearned storage -- an obvious financial and psychological barrier -- compared to the market price to be received.

To remove this built-in disincentive in the future, the NGFA believes Congress should consider mandating that storage payments for reserve grain be made in a manner similar to that used for commercial elevators storing CCC-owned grain under the Uniform Grain Storage Agreement contract -- namely, that payments be made quarterly after the grain has been stored for a three-month period.

Another option we believe warrants consideration if the FOR is to be more responsive to market orientation is to eliminate the penalties a producer must pay when marketing grain that is not in "release" status. The promise of receiving storage payments remains a strong incentive for producers to keep grain enrolled in the FOR. But elimination of penalties for sale at less than the release level would allow some FOR stocks to come to market to meet demand needs in a more orderly way.

A third option that the NGFA believes is necessary if FOR stocks are to be made generally more accessible to the market is to set FOR release levels at no greater than 140 percent of the county ASCS price support loan rate. We believe such a release level will encourage producers to carry stocks forward if they perceive the marketplace is signaling them to do so without isolating such stocks from the market indefinitely. Under current market conditions, the FOR would continue to be in release status -- an appropriate status given current demand for such stocks.

CCC Grain Sales Policies

Prior to the new era ushered in by the 1985 farm act and the generic certificate program, CCC-owned inventories also were isolated from the marketplace by an overly restrictive sales policy. Those minimum CCC cash sales prices -- which dictate that grain

cannot be sold for cash at levels less than 110 percent of the current respective FOR release level -- remain in effect today for commodities for which a reserve is established. The only way CCC can sell its grain at market values for cash is for the grain to go out of condition to the point that it can be sold as "non-storable" -- defined as grain that is U.S. No. 3 because of damage or U.S. No. 4, 5 or sample grade.

Mr. Chairman, these CCC cash sales levels are much too high, particularly if the generic certificate program is on the downward slope and the market once again needs to use cash to obtain title to CCC-owned grains. Consequently, the same problems resulting from artificial "isolation" of government-owned or controlled stocks from the marketplace that exists in the current FOR also pertains to CCC's cash sales policy.

To correct this problem, the NGFA recommends that CCC be authorized to sell its inventories for cash whenever prices are greater than 115 percent of the national adjusted loan rate for the respective commodities. As alluded to previously, this policy change is particularly important given the prospect that the availability of generic certificates will become increasingly tight. Reducing the statutory sales price will provide the Secretary of Agriculture with the ability to allow access to CCC-owned stocks when market demands dictate while providing a proper degree of discretion.

Emergency Reserves

Mr. Chairman, some have recommended that the 147-million-bushel "Emergency Food Security Wheat Reserve" should be combined with the FOR and be stored on-the-farm. We strongly oppose such an idea. By its very nature, the Emergency Food Security Wheat Reserve is designed to supply wheat for the P.L. 480 food aid program or other humanitarian needs as deemed necessary. Frequently, access to stocks stored in this emergency reserve is needed quickly. As such, it is paramount that wheat stocks designated for the Emergency Food Security Wheat Reserve be stored in commercial channels readily accessible to the grain pipeline so that they can reach export terminals in a timely manner.

The same rationale holds true for the 75-million-bushel Disaster Reserve comprised of feed grains. To store either of these emergency food and feed reserves in out-of-position locations would defeat their purpose and would greatly increase the costs of these programs while posing logistical nightmares in responding expeditiously and effectively to emergency needs.

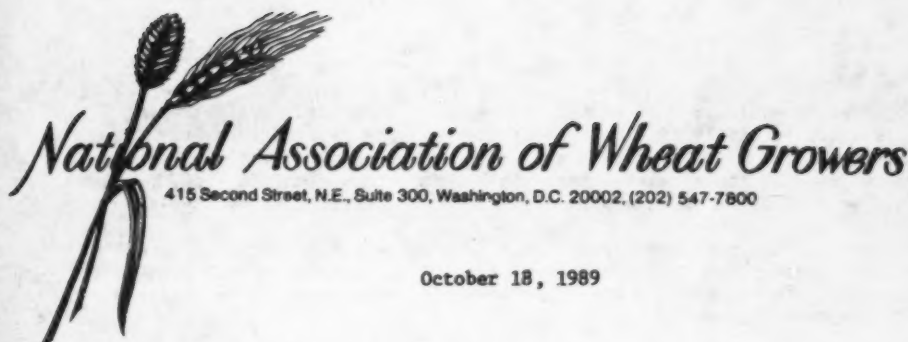
Further, while we do not support a government policy that concentrates ownership of

large quantities of stocks by the government, these particular food and feed aid programs justify moderate stock holding by CCC.

Conclusion

In conclusion, the NGFA supports the continuation of farm policies that encourage private enterprise to carry stocks of grains, thus minimizing the need for involvement by the federal government. Assuming Congress continues authorization for the farmer-owned reserve to meet food security and humanitarian needs, as well as to ensure the United States has a reliable supply of grains to serve domestic and export demand, the NGFA urges consideration of the policy changes we have recommended today. Such changes to the structure and operation of the FOR and CCC's grain sales policy absolutely are essential if the United States is to continue the successful market-oriented thrust of current farm policy while allowing the market to function more efficiently with a minimum of government involvement and interference.

Thank you, Mr. Chairman, and I would be pleased to respond to any questions you and other members of the Subcommittee may have.



October 18, 1989

The Honorable Dan Glickman
Chairman
Wheat, Soybeans and Feed Grains Subcommittee
House Committee on Agriculture
Room 1301, Longworth House Office Building
Washington, D.C. 20515

Dear Mr. Chairman:

As a member-driven organization, the National Association of Wheat Growers (NAWG) is dependent upon its locally initiated resolution process to provide the policy framework for action throughout the year. The individual state associations are presently beginning work on the resolutions and policy objectives that will guide NAWG through the forthcoming farm bill debate. While NAWG food reserve policy may develop further in the upcoming months we would like to share our present grain reserve resolutions with the Wheat, Soybeans and Feed Grains Subcommittee. We would be most appreciative if these comments would be included in the grain reserve hearing record.

The National Association of Wheat Growers supports continuation of the Farmer Owned Reserve (FOR) as an integral part of farm policy. The grain reserve should be managed in a manner that enables it to complement other farm programs and to meet public policy goals. For the 1987-90 crops, entry should not be allowed as long as FOR stocks total more than 30 percent of total utilization for the current marketing season.

NAWG believes that in addition to the option to renew the reserve contract, producers should be offered special incentives to redeem that grain with generic certificates, using the Posted County Price (PCP) differential for the class of wheat in storage. Producers should be allowed to rotate stocks to preserve the quality of reserve grain. The Commodity Credit Corporation (CCC) should re-implement the storage facility loan program to insure availability of adequate storage space. Storage payments to farmers should be made at the same rate as those to commercial warehousemen."

Without departing from our policy resolutions, I would also add that there is a recurring tone of frustration voiced by the farmer's I represent. The present farm policy was crafted under the shadow of a

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burdensome oversupply of almost all major commodities. While the situation is vastly different today, farmers are frustrated by the apparent lack of price response in the cash market to tighter wheat supplies. At the same time there is a perception that USDA (and Congress) may be willing to boost stocks above current market-clearing levels.

As a final note, NAWG would urge caution upon the part of Congress before moving away from our present reserve policies. We look forward to working with you on this and other issues of importance to wheat farmers in the next farm bill.

Sincerely,



Reggie Wyckoff
President

RW/bk

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